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MARSH MERCER KROLL
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February 2009

Fourth Quarter 2008 Total Fund Review

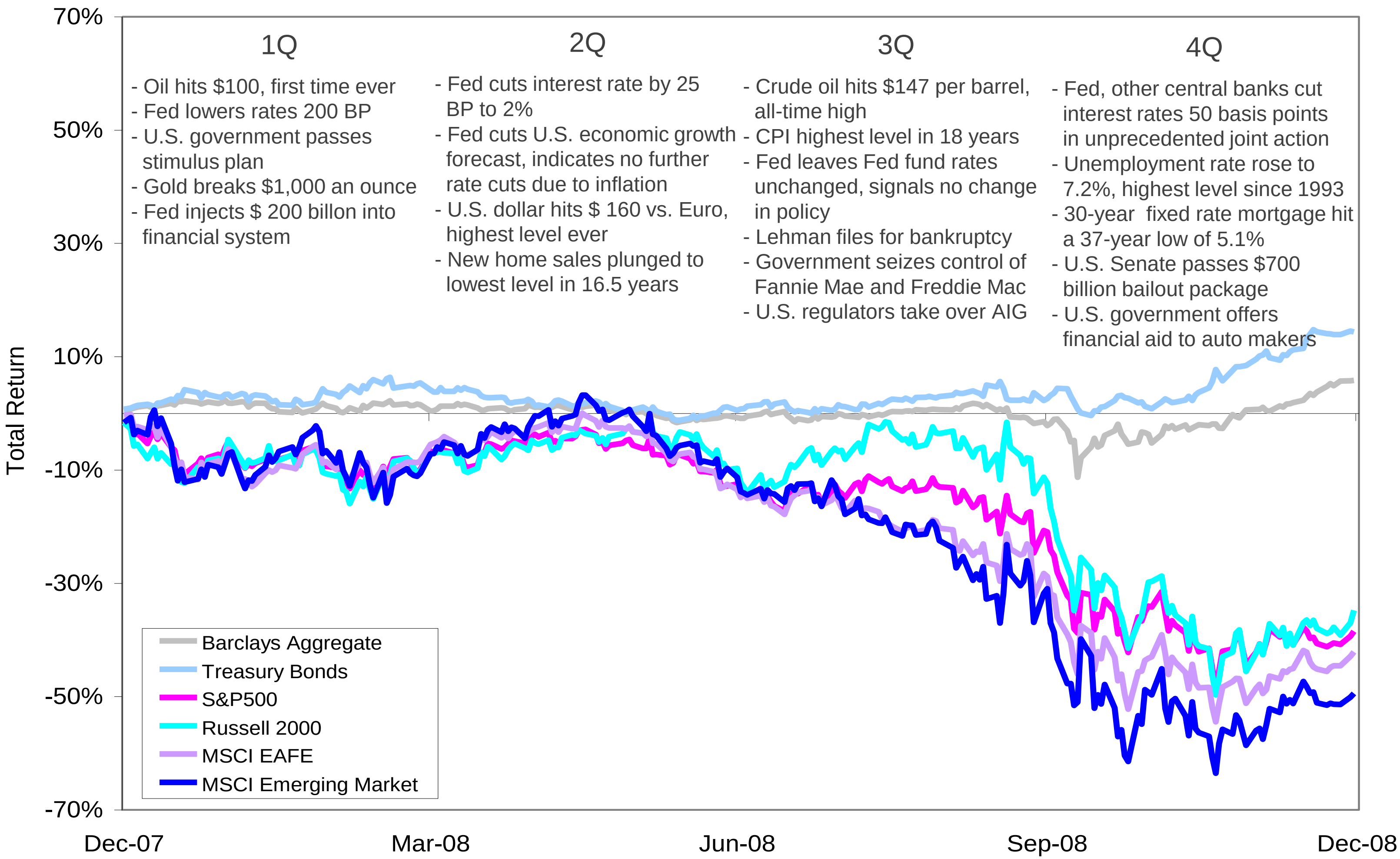
Arizona State Retirement System

Terry Dennison, Los Angeles

Services provided by Mercer Investment Consulting, Inc.

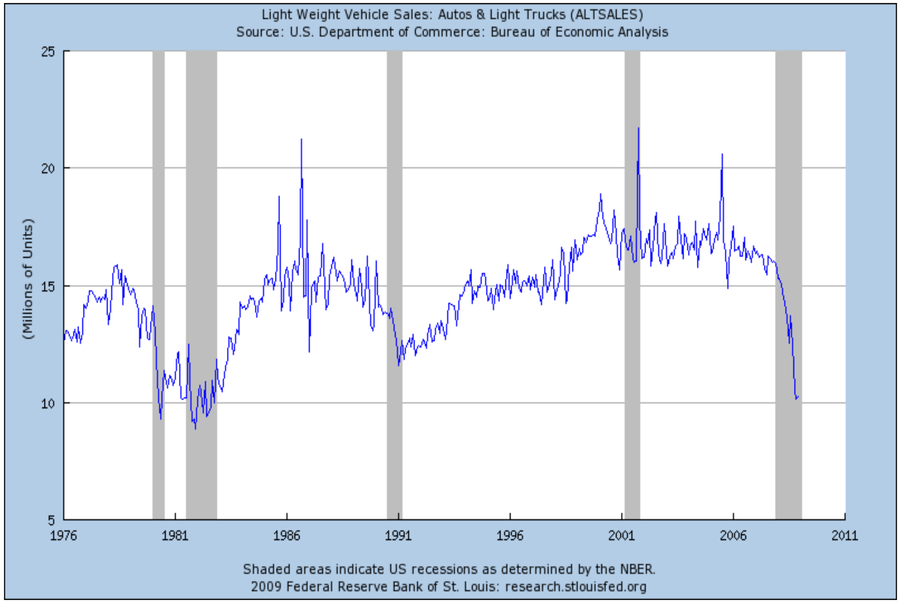
Financial Stress and Deleveraging

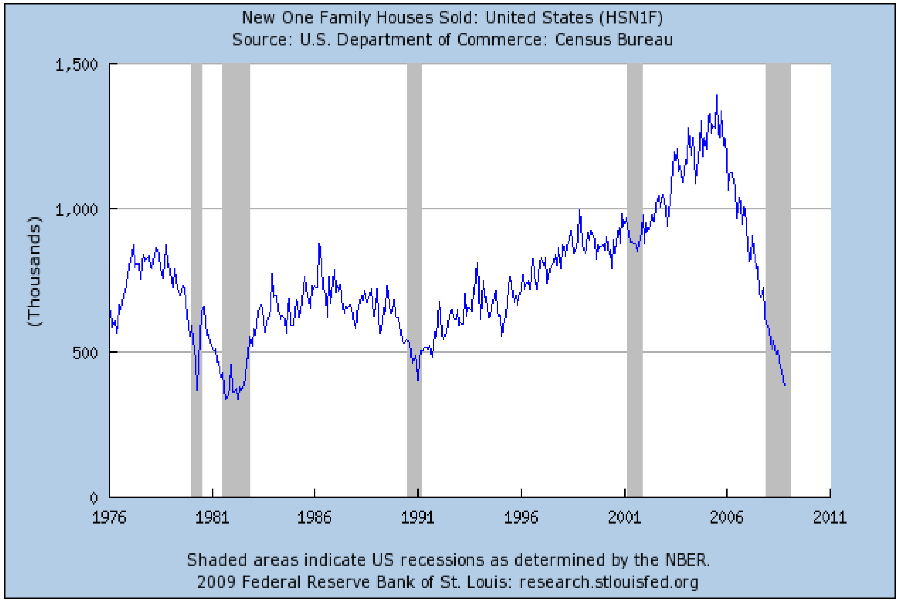
Review of Major Events in 2008
A Year for the Record Book



Source: Barclay Capital, MSCI, TCW

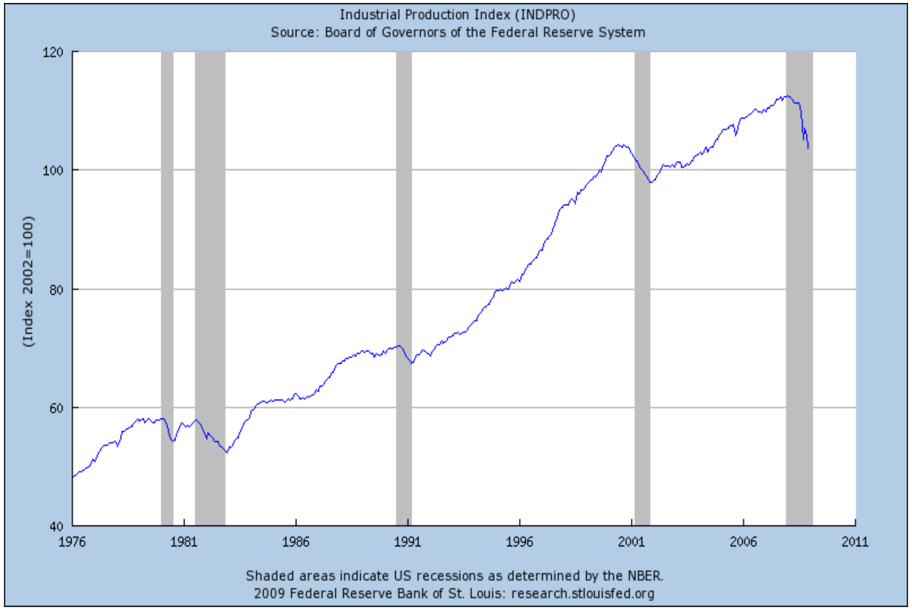
Collapse of Home and Auto Sales

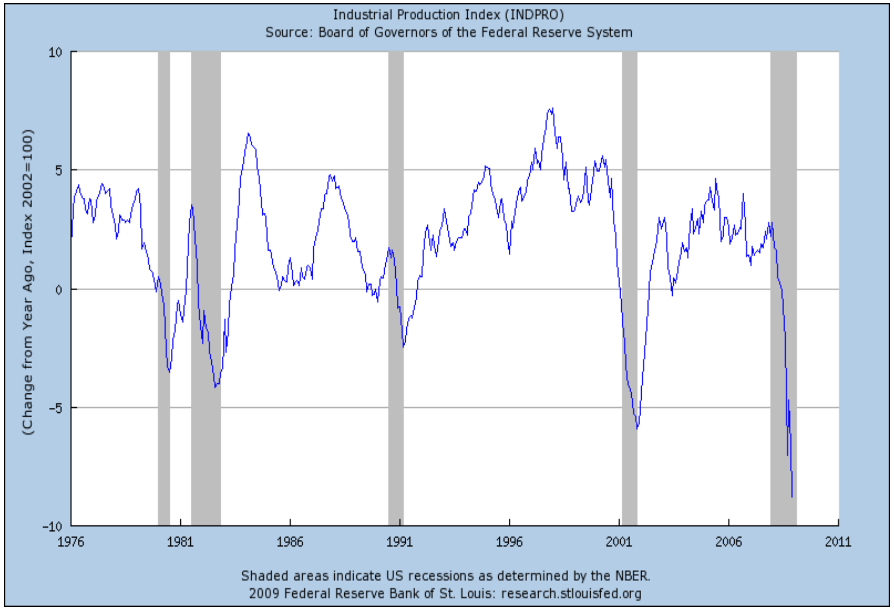




- From record highs, home sales have fallen to the lowest level since the early 1980s
- At current inventory levels, national home prices are not expected to stabilize until sometime in 2010
- Auto sales have fallen precipitously, to about 10m units/year. This is a level not seen since the early 1980s

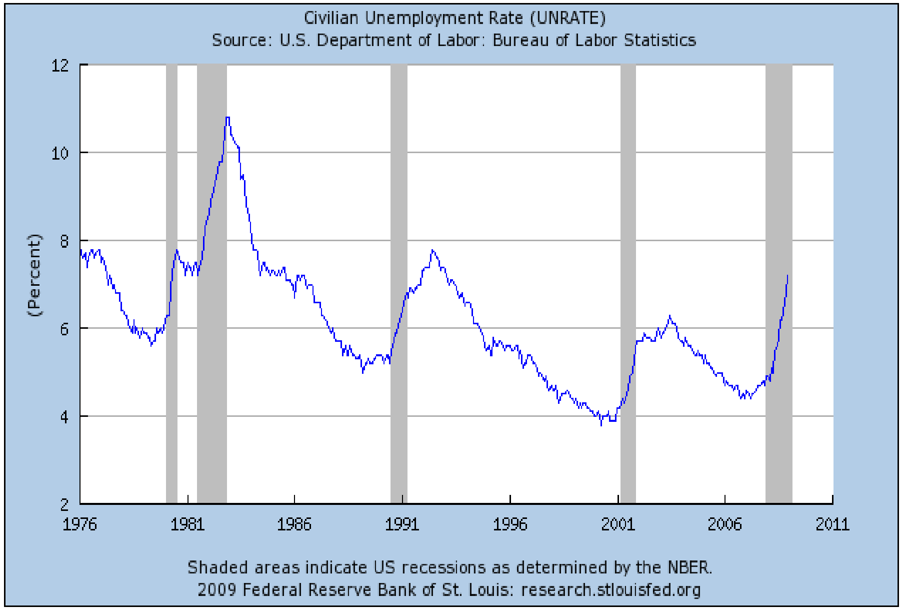
Slowdown in Production

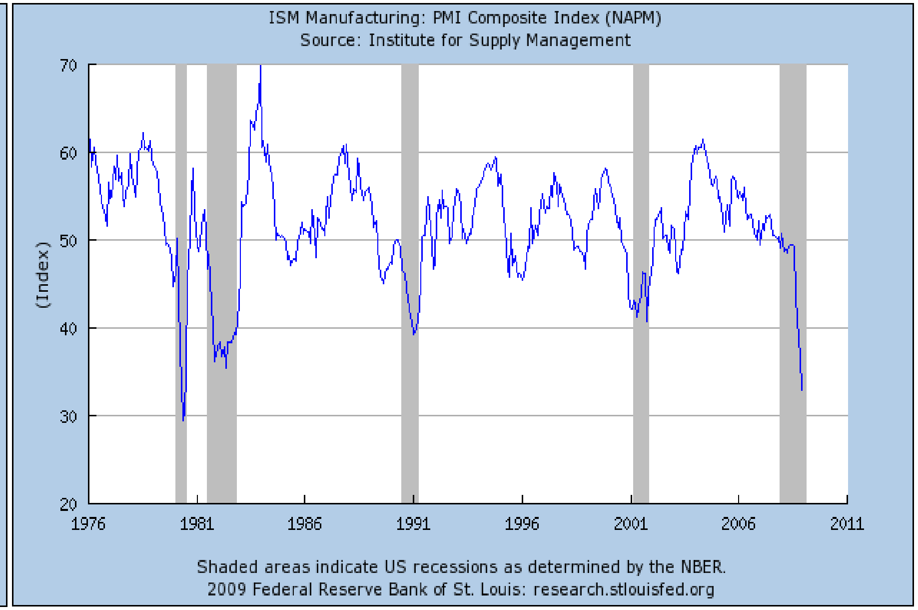




- U.S. industrial production has slowed dramatically
- The slowdown has been faster and steeper than in recent recessions

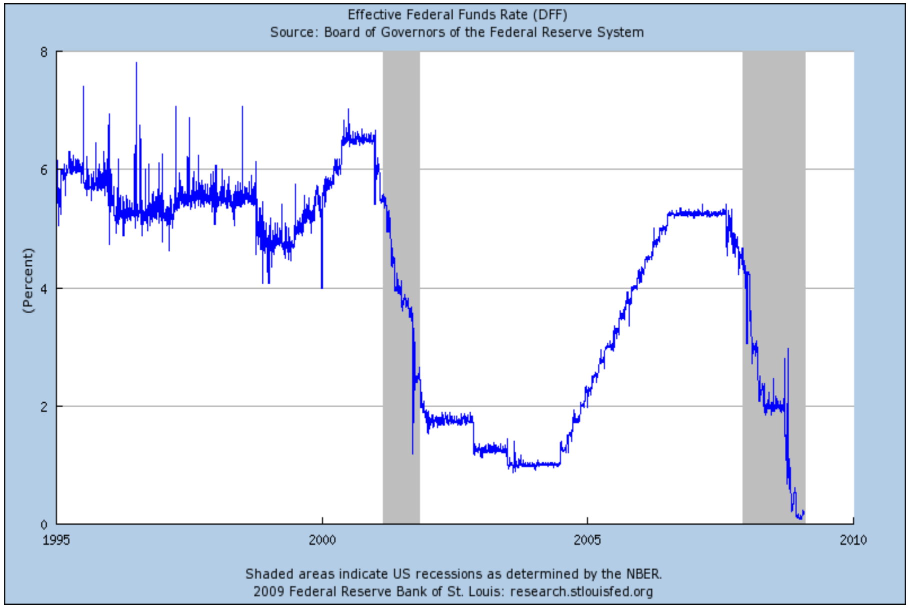
Signs of the Weak Economy

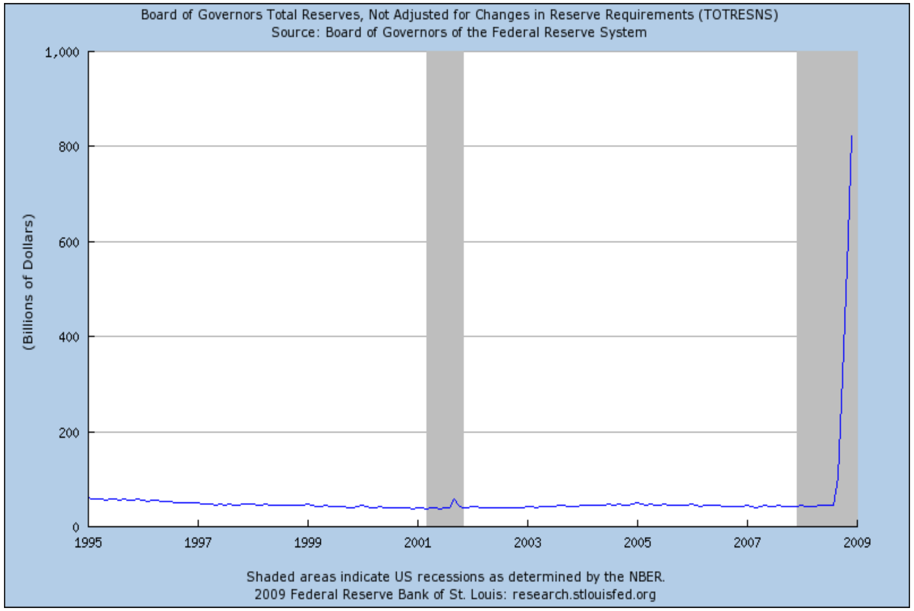




- Unemployment, a lagging indicator of the economy, has spiked. The U.S. economy is currently shrinking by about 500,000 jobs/month
- The ISM Manufacturing Index fell to the low 30s. Any value below 50 indicates declining manufacturing

Aggressive Monetary Policy





- Traditionally, the Fed's primary economic lever is short-term interest rates
- This rate cycle has been the most aggressive in history, with rates declining to 0.00% – 0.25%
- The next step has been to move troubled or illiquid assets directly to the balance sheet of the Federal Reserve

Pressure on the Banking System
(Selected U.S. Financial Institutions, 12/31/2007 and 12/31/2008)

Company Name	*12/2007 Market Value ($Billions)*	*12/2008 Market Value ($Billions)*	*Decline in Market Value (%)*	*Decline in Market Value ($Billions)*	*Comments*	*TARP Funding*
BANK OF AMERICA	$183.1	$70.6	**-61%**	**-$112.5**	Acquired Merrill Lynch	$45.0
AIG	$147.9	$4.2	**-97%**	**-$143.6**	US Govt Conservatorship, total government funding over $100B	$40.0
CITIGROUP	$146.6	$36.6	**-75%**	**-$110.1**	Breaking into multiple companies	$45.0
JPMORGAN CHASE	$146.6	$117.7	**-20%**	**-$28.9**	Acquired Bear Stearns	$25.0
WELLS FARGO	$101.3	$98.0	**-3%**	**-$3.2**	Acquired Wachovia	$25.0
GOLDMAN SACHS	$85.5	$33.4	**-61%**	**-$52.1**	Converted to commercial bank	$10.0
WACHOVIA	$72.3	$12.0	**-83%**	**-$60.3**	Merging into Wells Fargo	
MORGAN STANLEY	$56.1	$16.8	**-70%**	**-$39.3**	Converted to commercial bank	$10.0
MERRILL LYNCH	$46.0	$18.6	**-59%**	**-$27.3**	Merging into Bank of America	
FANNIE MAE	$39.1	$0.8	**-98%**	**-$38.3**	US Govt Conservatorship	
LEHMAN BROTHERS	$34.8	$0.0	**-100%**	**-$34.8**	Bankrupt	
FREDDIE MAC	$22.0	$0.5	**-98%**	**-$21.5**	US Govt Conservatorship	
WASHINGTON MUTUAL	$11.8	$0.0	**-100%**	**-$11.8**	Merged into Bank of America	
BEAR STEARNS	$10.2	$0.0	**-100%**	**-$10.2**	Acquired by JP Morgan Chase	
	$1,103.3	$409.3	**-63%**	**-$694.1**		$200.0

Data sources: Bloomberg, Style Research

- The U.S. Financial sector declined in market value by $1.6 trillion over this period, or 48%

U.S. Capital Markets and Macroeconomic Conditions
Federal Reserve and Treasury Programs

Recent U.S. Government Spending

U.S. Government Programs	Maximum Amount	Current Amount
Federal Reserve - $5.255 trillion - 62%		
Commercial Paper Funding Facility LLC (CPFF)	$1,800.0	$270.9
Term Auction Facility (TAF)	900.0	415.3
Other Assets	602.0	602.0
Money Market Investor Funding Facility (MMIFF)	540.0	0.0
Unnamed MBS Program announced 11/25/08	500.0	0.0
Term Securities Lending Facility (TSLF)	250.0	190.2
Term Asset Backed Securities Loan Facility (TALF)	200.0	0.0
Other Credit Extensions (AIG)	122.8	122.8
Unnamed GSE Program announced 11/25/08	100.0	0.0
Primary Credit Discount	92.6	92.6
ABCP Money Market Fund Liquidity Facility (AMLF)	61.9	61.9
Primary Dealer and Others (PDCF)	46.6	46.6
Net Portfolio Maiden Lane LLC (Bear Sterns)	28.8	26.9
Securities Lending Overnight	10.3	10.3
Secondary Credit	0.1	0.1
Federal Deposit Insurance Corporation - $1.788 trillion - 21%		
FDIC Liquidity Guarantees	1,400.0	0.0
Loan Guarantee to Citigroup*	249.3	249.3
Loan Guarantee to Lending arm of General Electric	139.0	139.0
Treasury Department - $1.15 trillion - 13.5%		
Troubled Asset Relief Program (TARP)	700.0	350.0
Fannie Mae / Freddie Mac Bailout	200.0	0.0
Stimulus Package	168.0	168.0
Treasury Exchange Stabilization Fund (ESF)	50.0	50.0
Tax breaks for banks	29.0	29.0
Federal Housing Administration - $300 billion - 3.5%		
Hope For Homeowners	300.0	300.0
Total	**$8,490.4**	**$3,124.9**

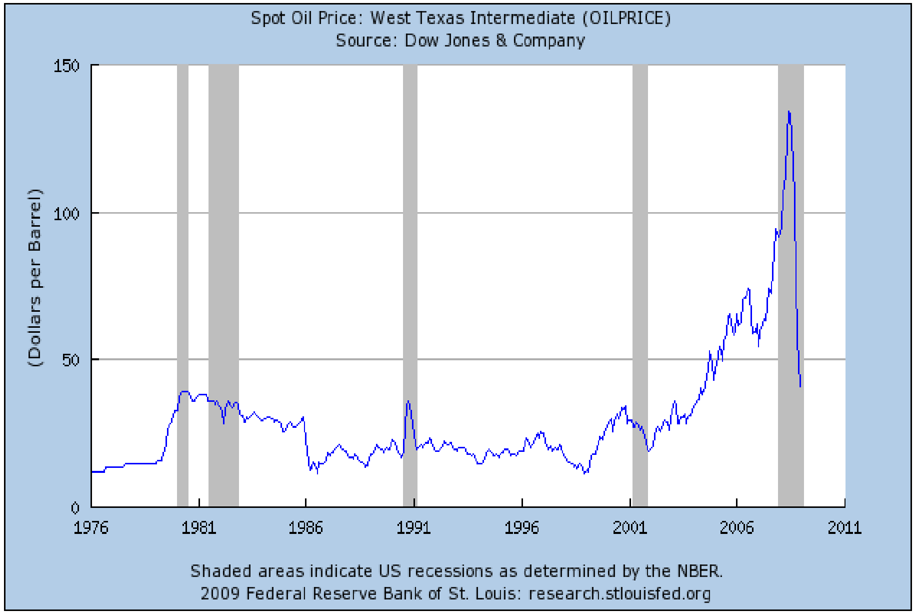
* $306 billion in guarantees, with Citi absorbing the first $29 billion in losses. Additional losses are split 90% US Government, 10% Citi

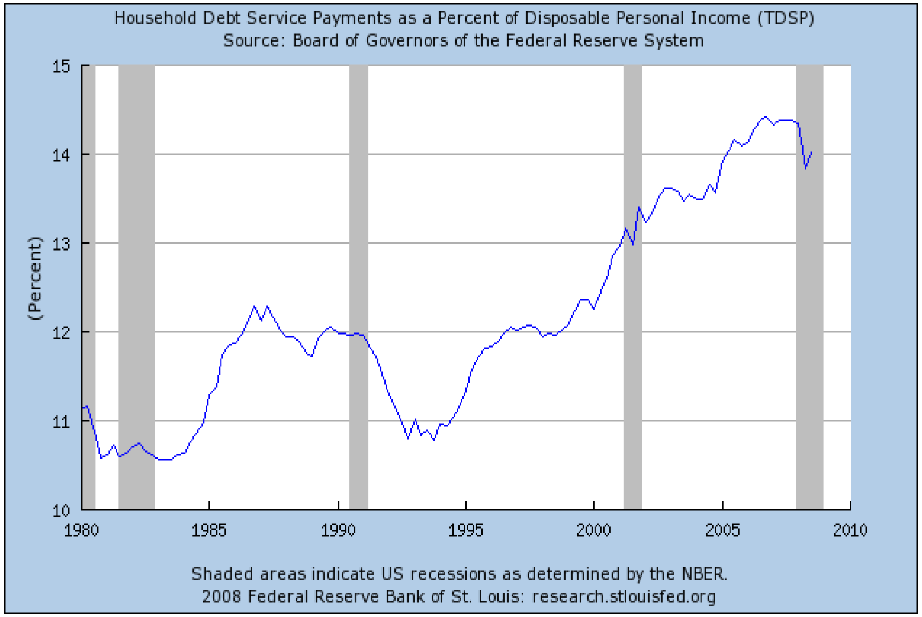
Historically Expensive U.S. Government Endeavors

Expense	Cost	Inflation Adjusted Cost
U.S. Government Specific		
Louisiana Purchase	$0.2	$217.0
Race to the Moon	36.4	237.0
S&L Crisis	153.0	256.0
Korean War	54.0	454.0
The New Deal	32.0	500.0
Invasion of Iraq	551.0	597.0
Vietnam War	111.0	698.0
NASA (Cumulative)	416.7	851.2
World War II	288.0	3,600.0
Total		**$7,410.2**

Source: CNBC, Bloomberg, Reinhold Capital (Barry Reinhold)

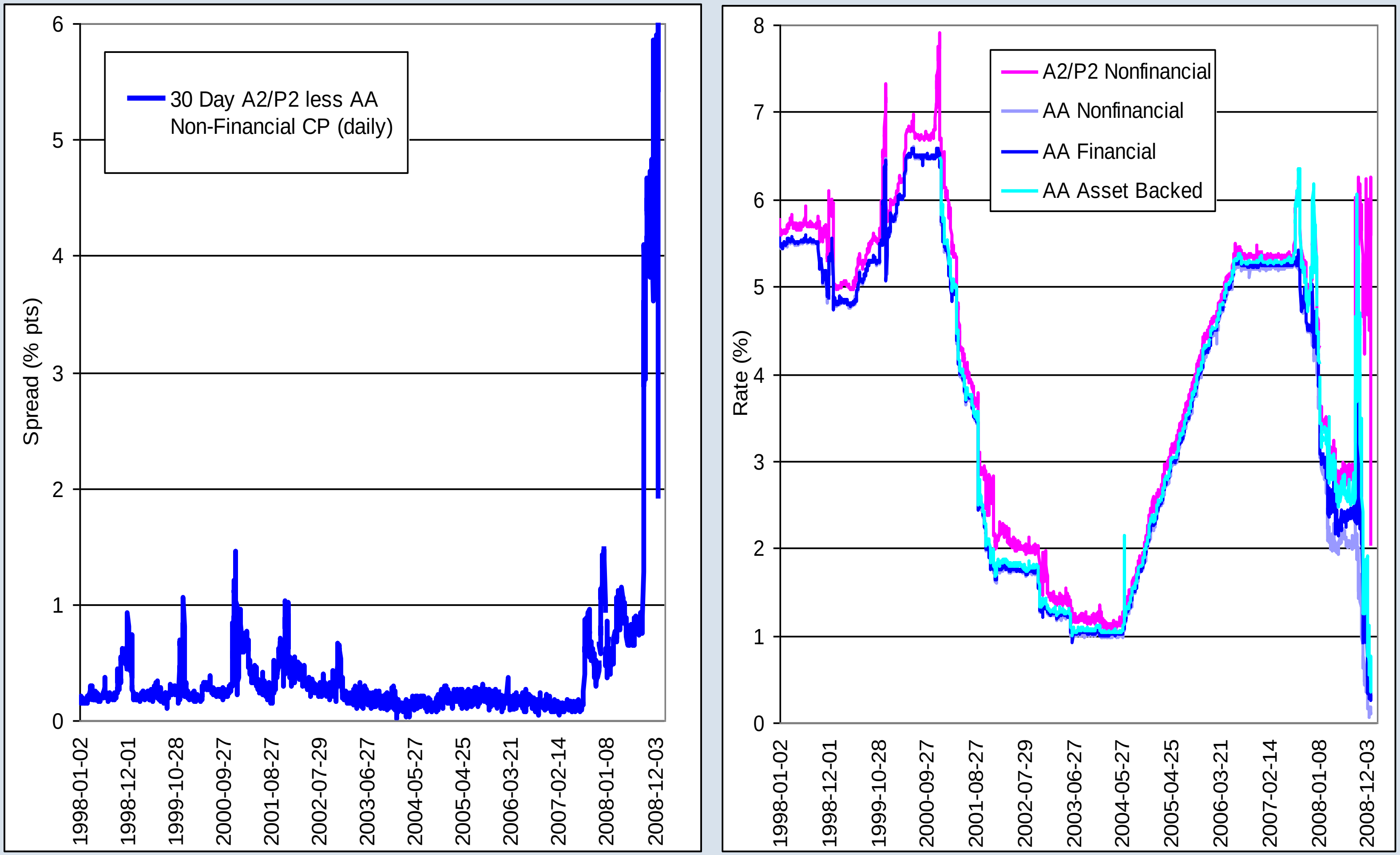
Excesses Begin to Correct





- Energy prices rose steadily from 2001 to July 2008. The peak price was over $147/barrel
- The drivers were a combination of economic growth, stock piling in selected markets, hedging, and, likely, speculation
- Prices collapsed in the 2nd half of 2008, falling to about $45/barrel
- With global consumption of about 80 million barrels/day, the current savings, relative to peak pricing, is over $8.0 billion per day, before factoring in declining demand
- Household debt service, while still high, has fallen to about 14%. The “norm” prior to the mid-1990s, was 11% – 12%

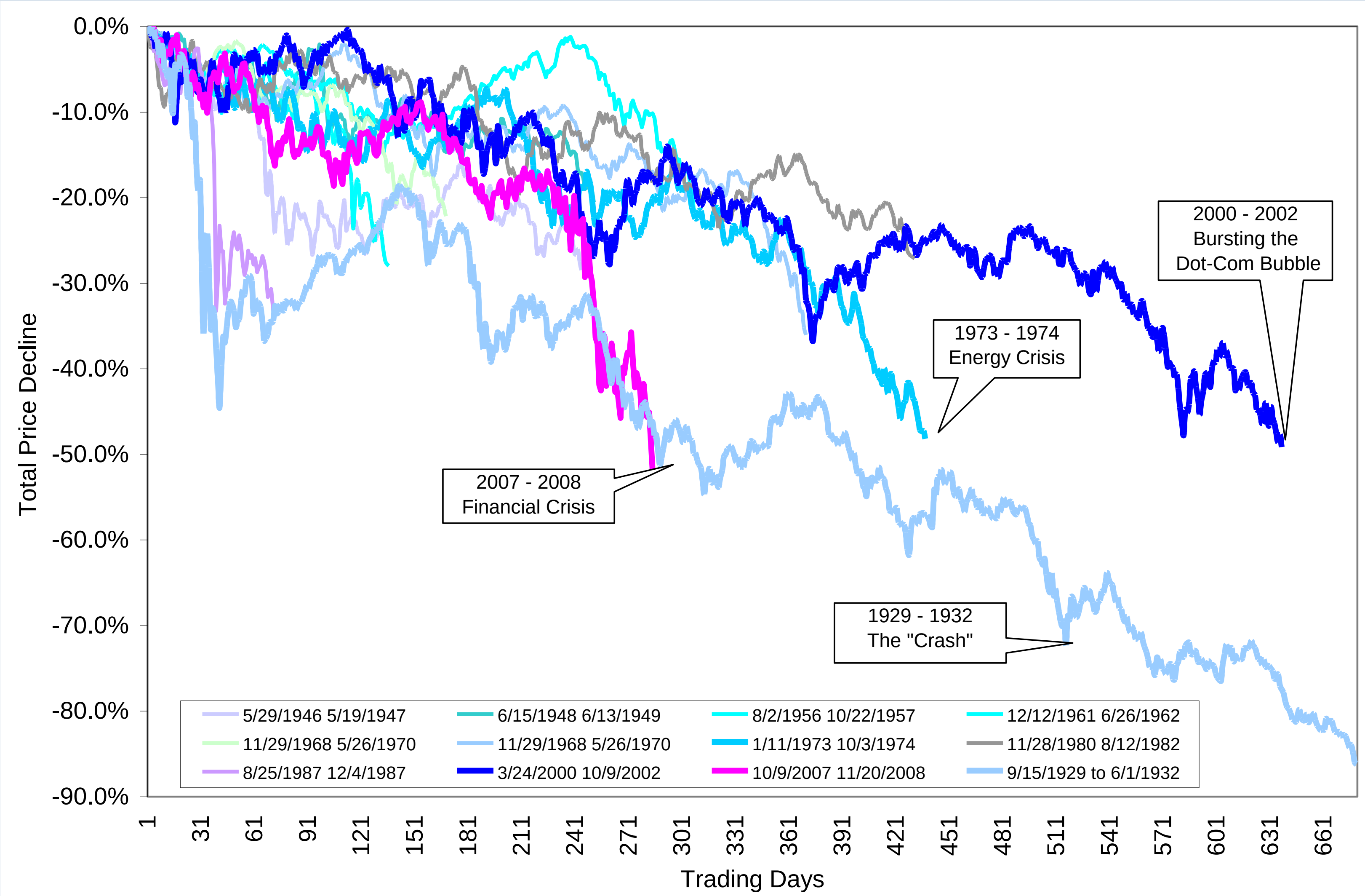
The Breakdown in Commercial Paper
New Credit Market Extremes



Source: Federal Reserve

Market Correction: This Time Fast and Painful

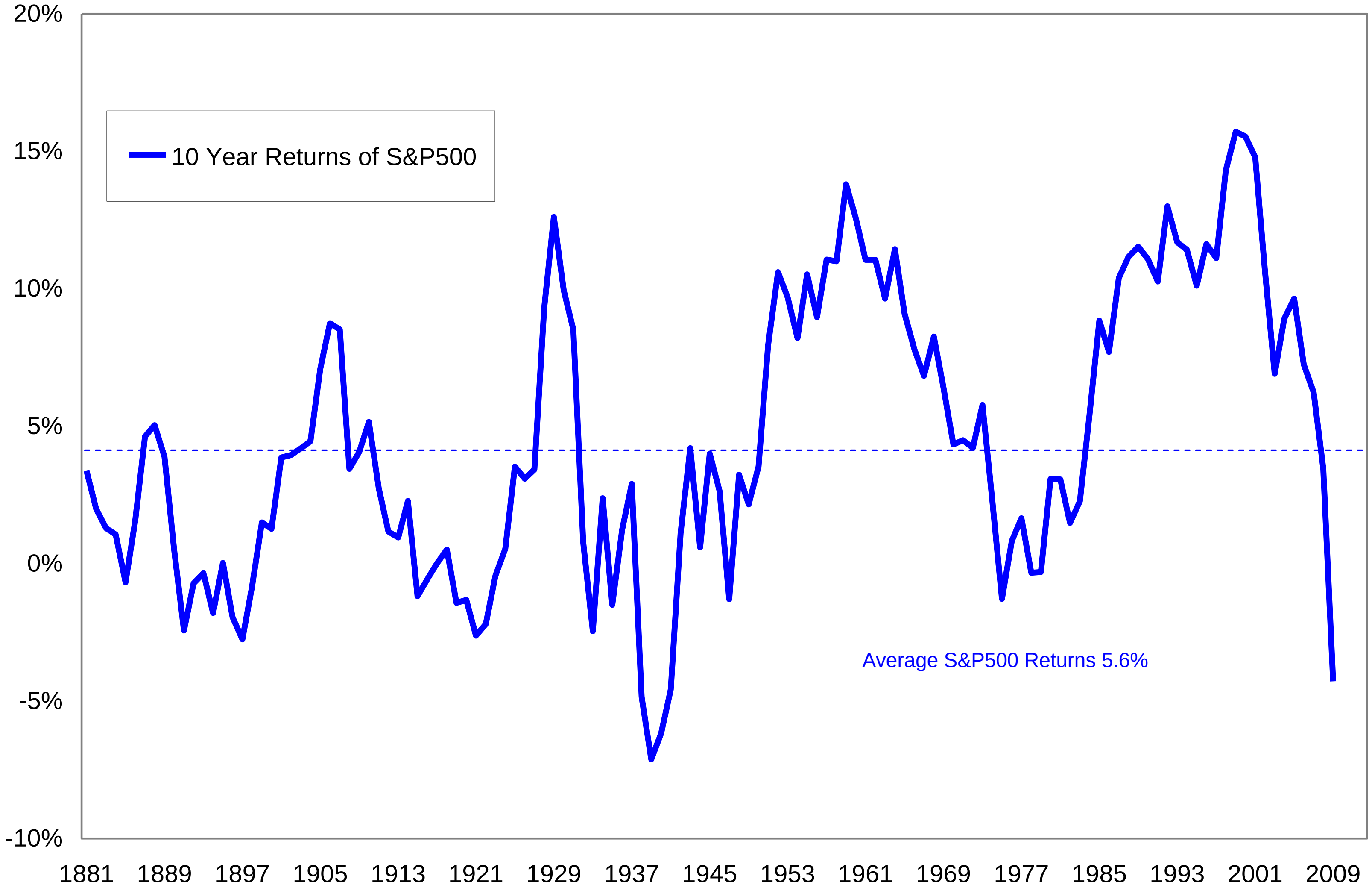
Bear Market Duration



Source: S&P500

The Loss of a Decade

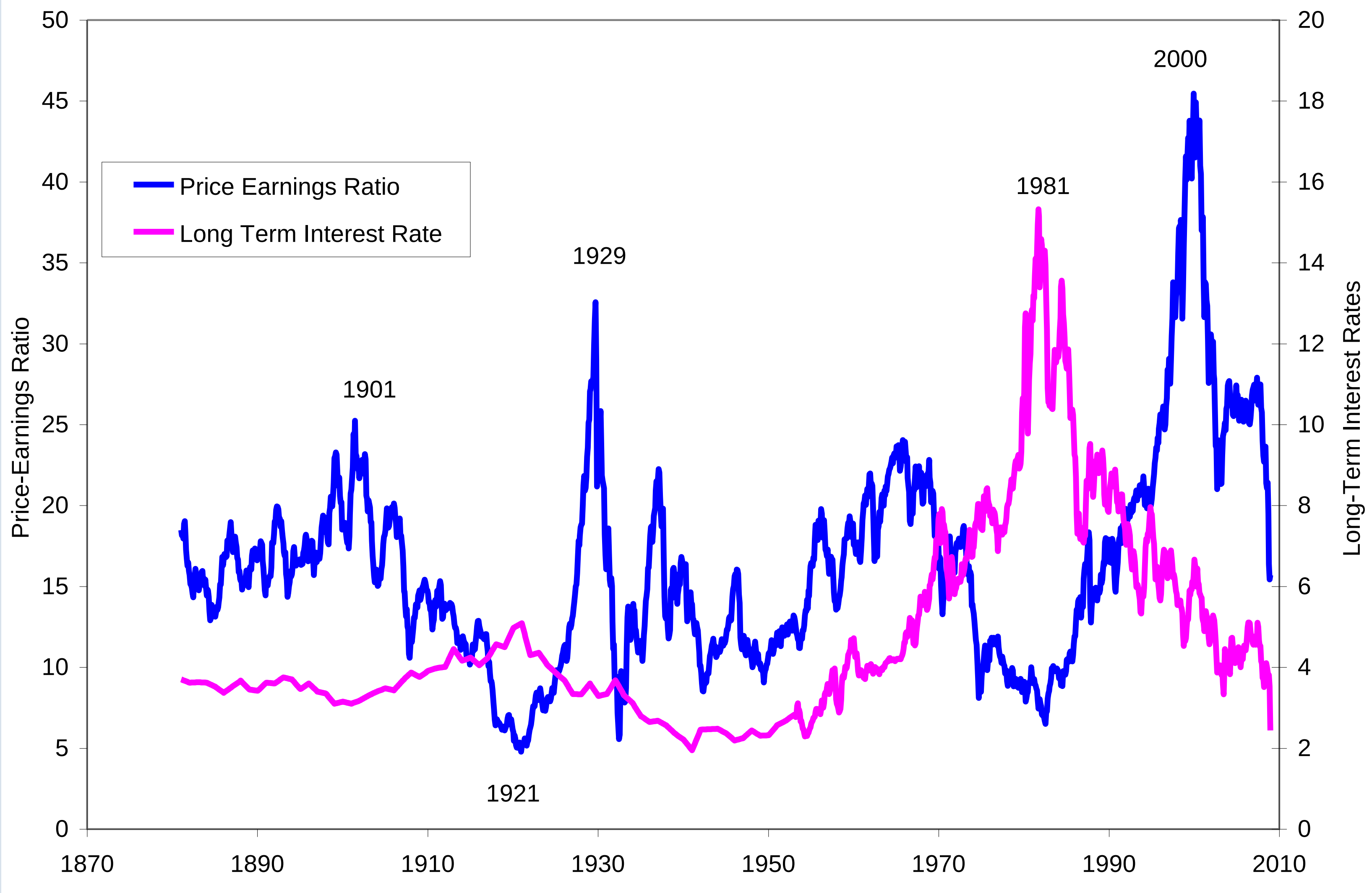
Worst 10-Year Return on U.S. Equity Since the Depression



Source: S&P500, Capital Guardian

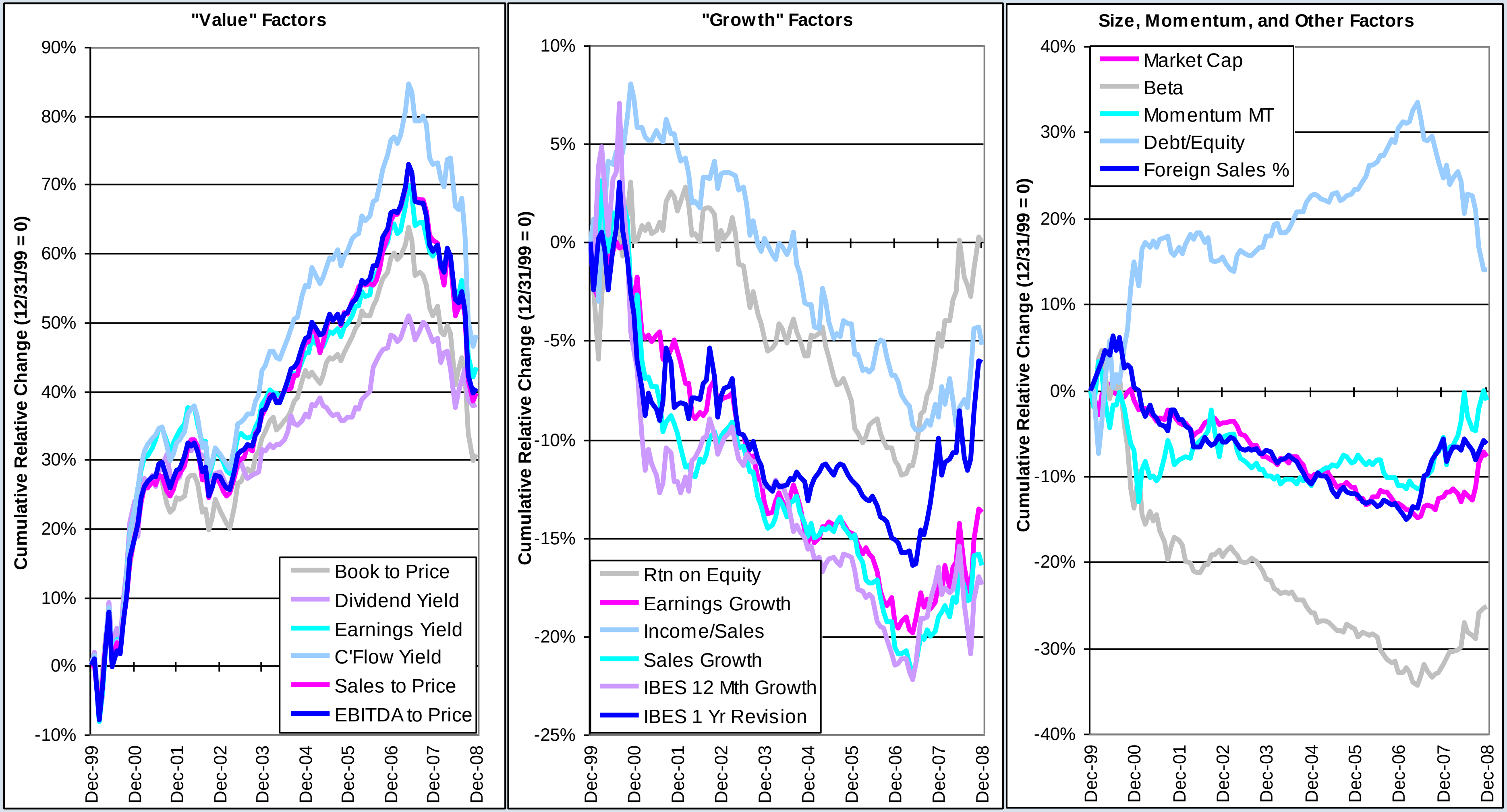
P/E Ratio Tumbles

Below Are Recent and Long-Term Averages



Source: Barclay Capital,S&P500, Capital Guardian

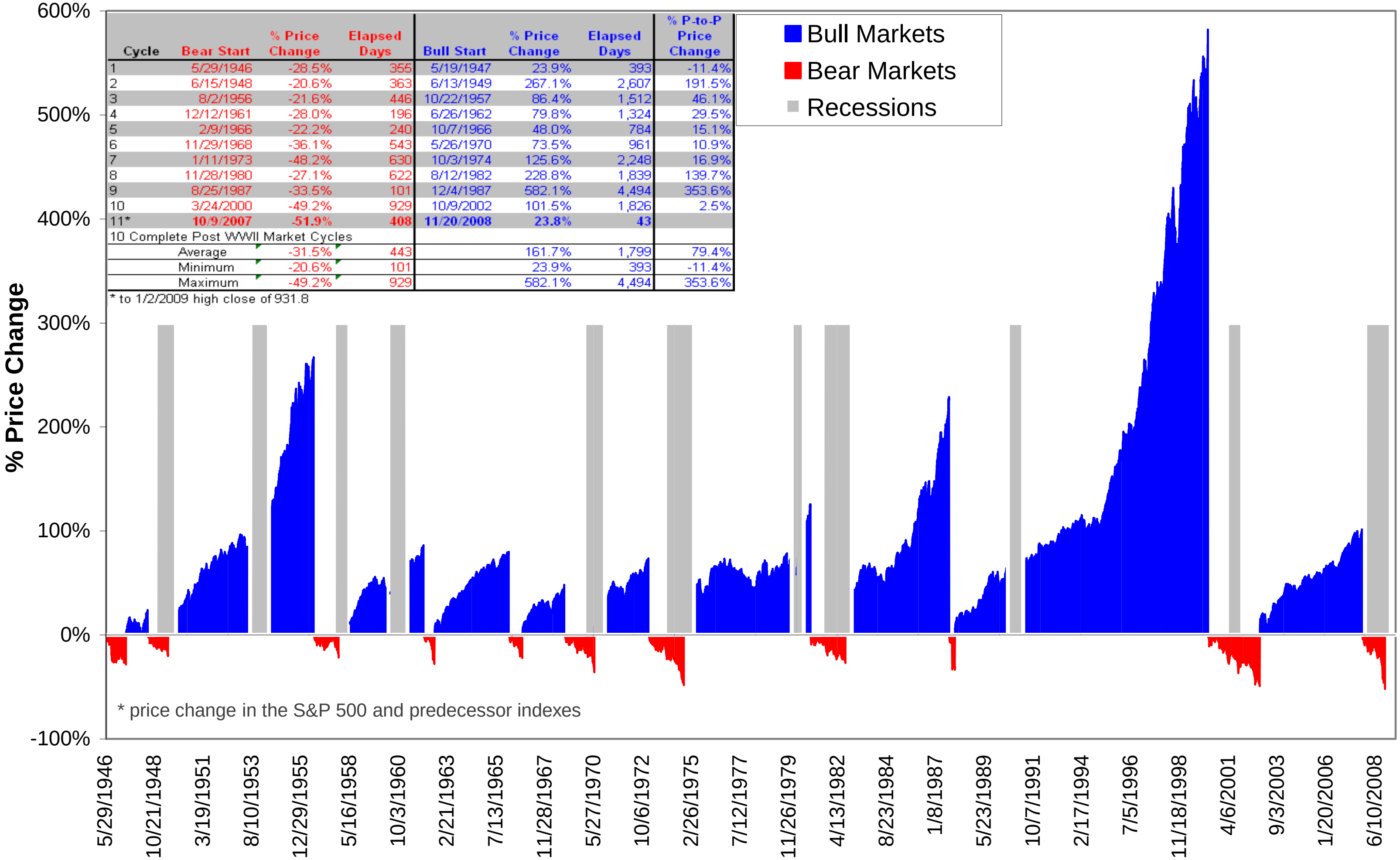
Style and Market Cap Analysis
Significant Shifts



Source: SRPA

Post World War II Market Cycles

(measured by % price change in S&P 500*)

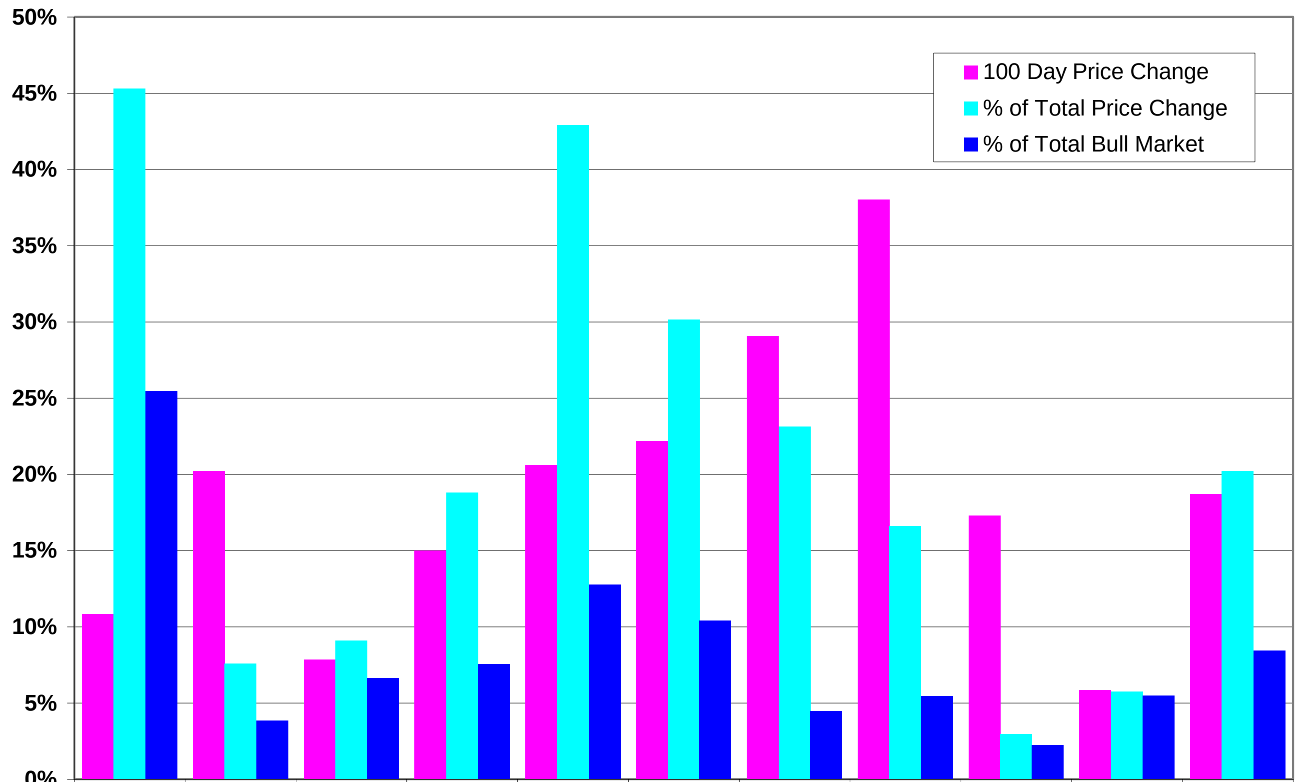


Cycle	Bear Start	% Price Change	Elapsed Days	Bull Start	% Price Change	Elapsed Days	% P-to-P Price Change
1	5/29/1946	-28.5%	355	5/19/1947	23.9%	393	-11.4%
2	6/15/1948	-20.6%	363	6/13/1949	267.1%	2,607	191.5%
3	8/2/1956	-21.6%	446	10/22/1957	86.4%	1,512	46.1%
4	12/12/1961	-28.0%	196	6/26/1962	79.8%	1,324	29.5%
5	2/9/1966	-22.2%	240	10/7/1966	48.0%	784	15.1%
6	11/29/1968	-36.1%	543	5/26/1970	73.5%	961	10.9%
7	1/11/1973	-48.2%	630	10/3/1974	125.6%	2,248	16.9%
8	11/28/1980	-27.1%	622	8/12/1982	228.8%	1,839	139.7%
9	8/25/1987	-33.5%	101	12/4/1987	582.1%	4,494	353.6%
10	3/24/2000	-49.2%	929	10/9/2002	101.5%	1,826	2.5%
11*	**10/9/2007**	**-51.9%**	**408**	**11/20/2008**	**23.8%**	**43**	
10 Complete Post WWII Market Cycles							
Average		-31.5%	443		161.7%	1,799	79.4%
Minimum		-20.6%	101		23.9%	393	-11.4%
Maximum		-49.2%	929		582.1%	4,494	353.6%

* to 1/2/2009 high close of 931.8

Source: S&P

Bull Market Returns are Front Loaded



	5/19/47	6/13/49	10/22/57	6/26/62	10/7/66	5/26/70	10/3/74	8/12/82	12/4/87	10/9/02	Average
100 Day Price Change	10.8%	20.2%	7.9%	15.0%	20.6%	22.2%	29.0%	38.0%	17.3%	5.8%	18.7%
% of Total Price Change	45.3%	7.6%	9.1%	18.8%	42.9%	30.1%	23.1%	16.6%	3.0%	5.8%	20.2%
% of Total Bull Market	25.4%	3.8%	6.6%	7.6%	12.8%	10.4%	4.4%	5.4%	2.2%	5.5%	8.4%

Bull Market Starting Date

Source: S&P

Economic Update

Economic Highlights

Positive

- Congress passed the Troubled Asset Relief Program (TARP) in October
- The Fed funds target rate dropped from 2.00% to astoundingly low current range of 0.00% to 0.25%
- Consumer prices dropped; in 2008 the CPI rose 0.1%, the smallest increase in 54 years; core CPI was up 1.8%
- Oil prices continued to tumble closing below $40/barrel in December
- The average 30-year fixed rate mortgage hit a 37-year low of 5.1% in December

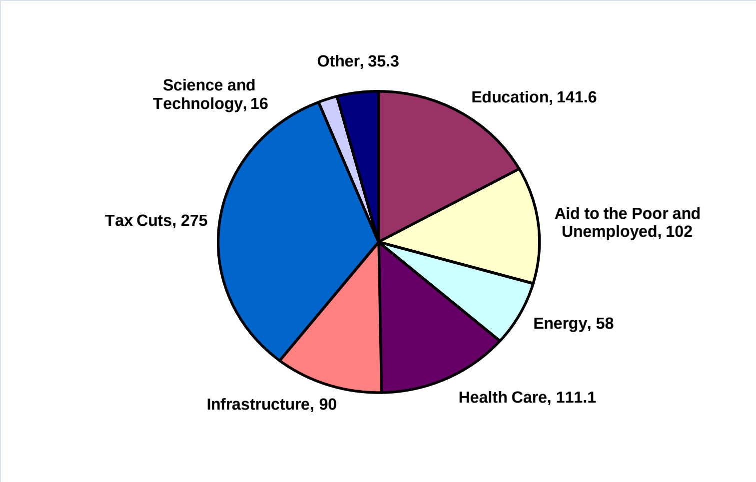
Negative

- The economy deteriorated rapidly; the estimation of GDP was -3.8%, the largest quarterly decline since 1982
- Unemployment rate rose to 7.2%, its highest level since January 1993
- Consumer confidence index hit a new all-time low in December, standing at 38.0
- Consumer spending remained weak; retail sales fell 2.8% in December, the sixth straight monthly decline
- Housing market remained frozen despite record-low mortgage rates and falling home prices; nationally, home prices have fallen 23% since the July 2006 20–city composite peak

U.S. Capital Markets and Macroeconomic Conditions
Unprecedented Government Intervention

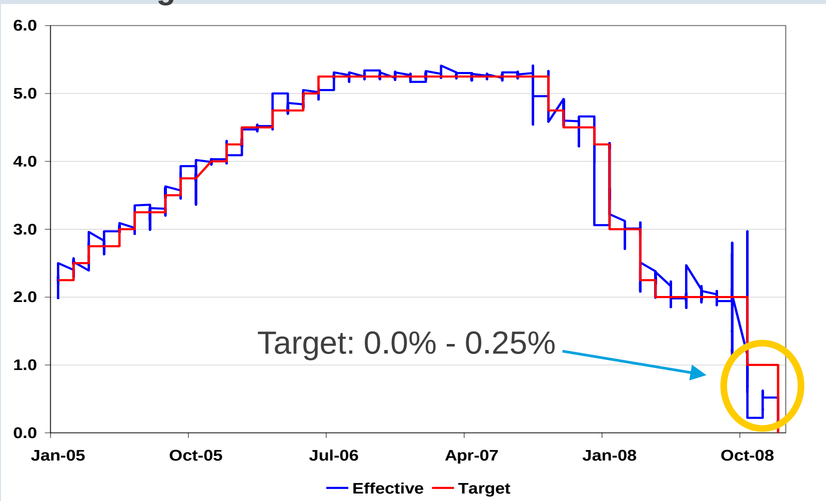
- U.S. government action in the free markets has accelerated over the past six months
- House Democrats, led by President Obama, recently proposed an $825 billion stimulus package
  - – The plan would be equivalent to about 3% of GDP over two years

Economic Stimulus Proposal (in $bn)



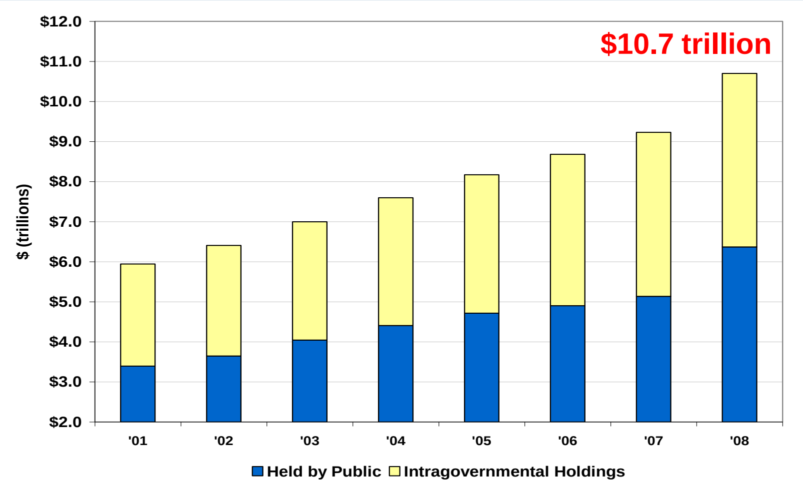
Source: House Committee on Appropriations

Target and Effective Federal Funds Rate



Source: Federal Reserve Bank of New York

Total Public Debt Outstanding ending December

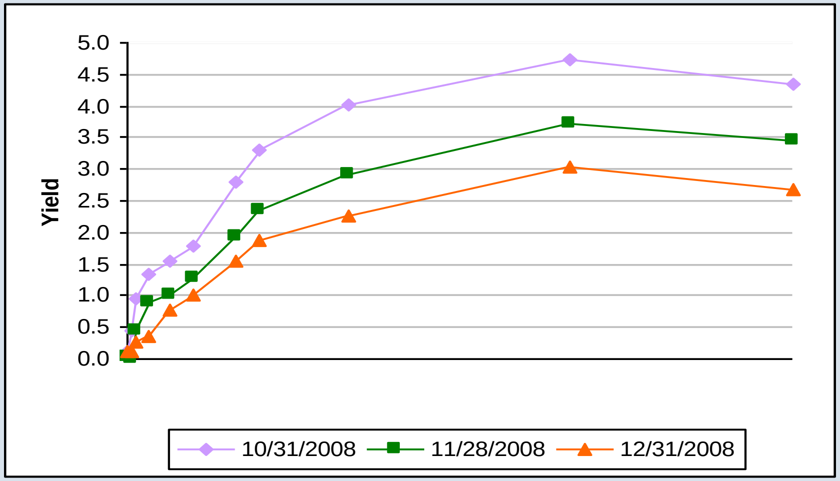


Source: www.treasurydirect.gov

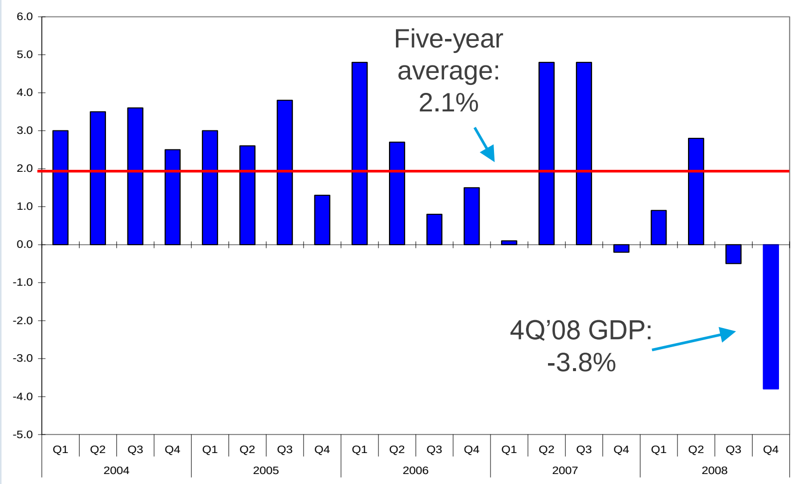
U.S. Capital Markets and Macroeconomic Conditions

An economy in recession

U.S. Treasury 4th Quarter Yield Curve



GDP: Quarter by Quarter

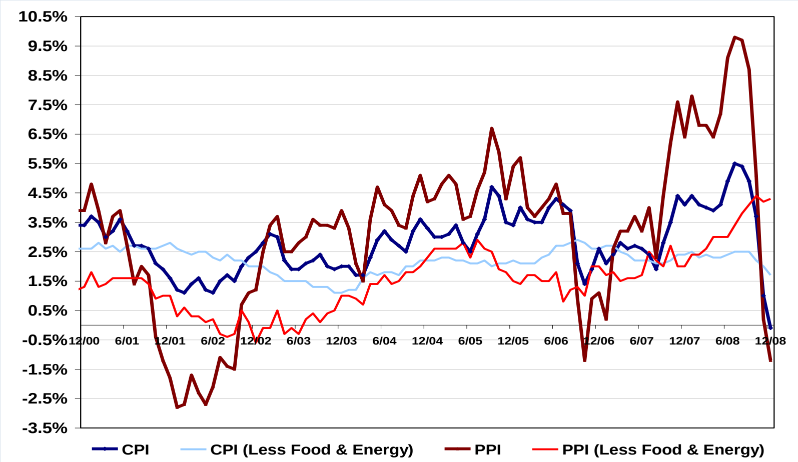


Source: Bureau of Economic Analysis and Federal Reserve Philadelphia

Civilian Unemployment Rate

Source: Bureau of Labor Statistics

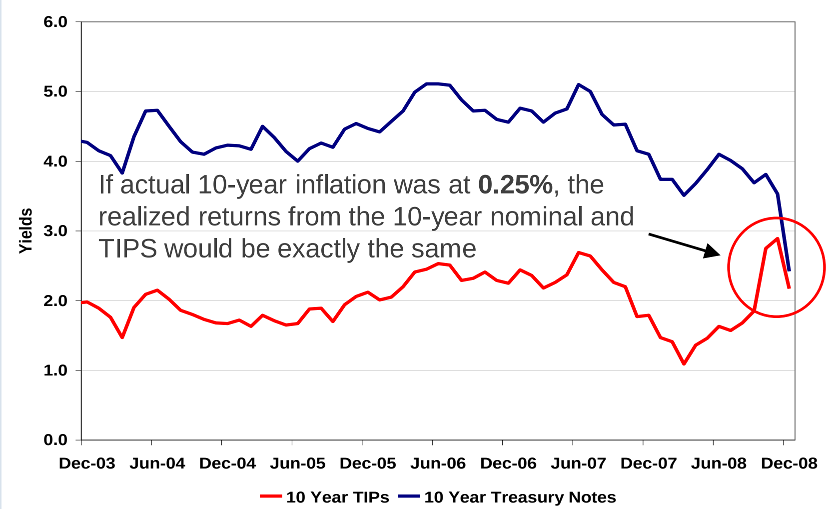
Seasonally Adjusted YoY Percentage Change in CPI & PPI



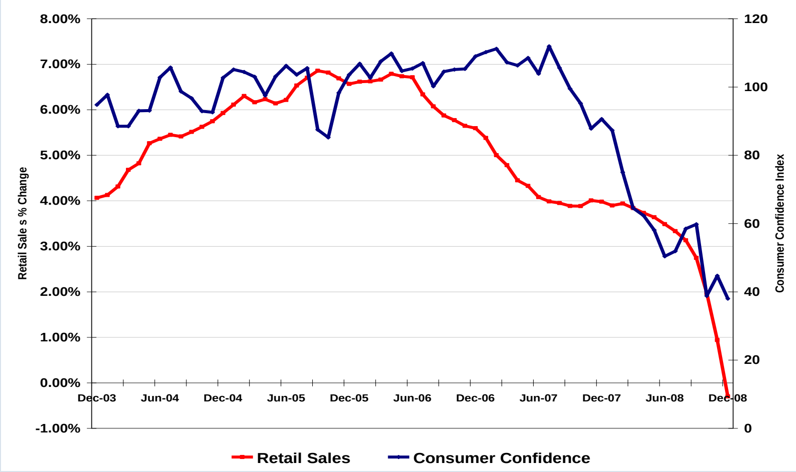
Source: Bureau of Labor Statistics. CPI-All Consumers. PPI-Finished Goods

U.S. Capital Markets and Macroeconomic Conditions
Inflation, Consumer Confidence and Other Leading Indicators

Implied 10-year Inflation Expectations

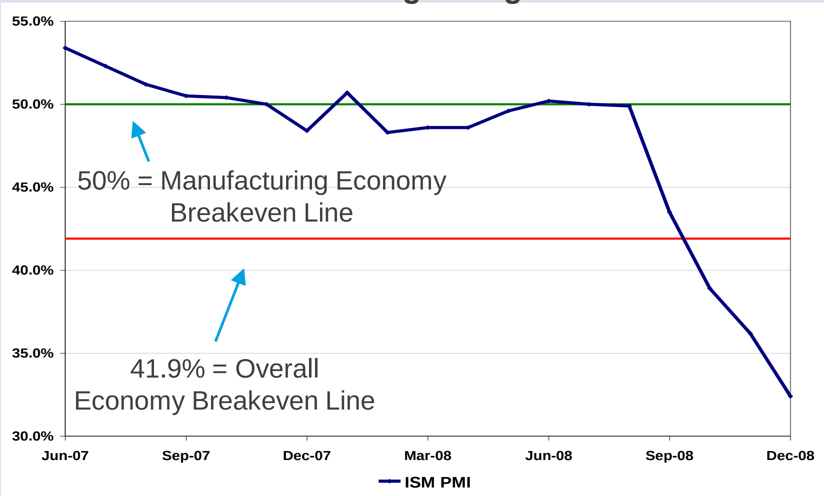


Consumer Confidence Index vs. Smoothed YoY % Change in Seasonally Adjusted Retail Sales



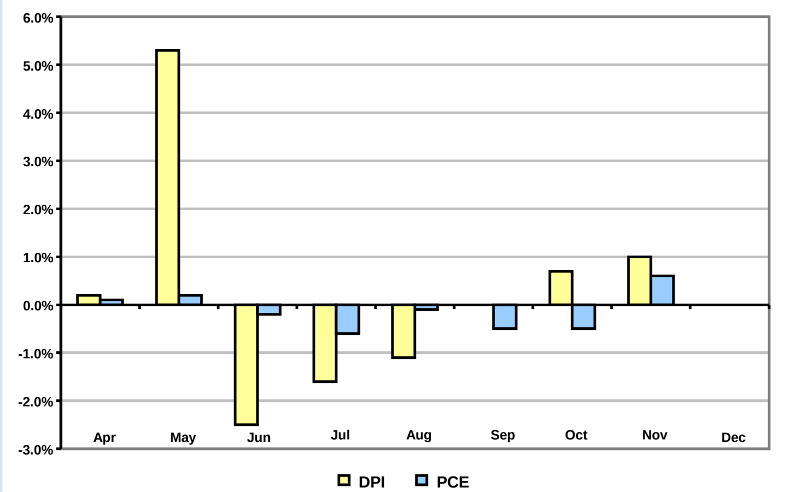
Source: The Conference Board and U.S. Census Bureau

ISM's Purchasing Managers Index



Source: Institute for Supply Management

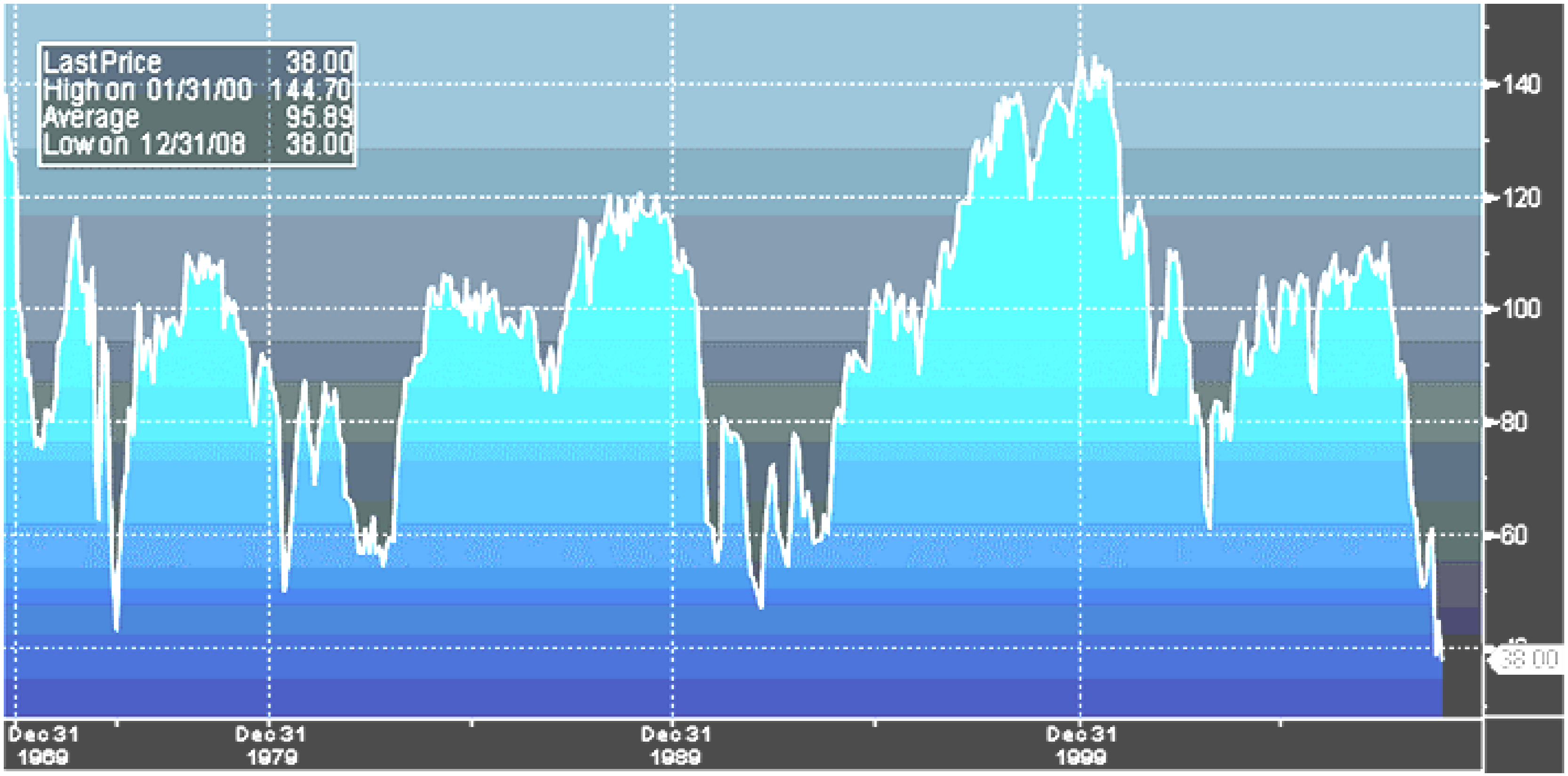
Seasonally Adjusted Real DPI and PCE Monthly Changes



Source: Bureau of Economic Analysis

U.S. Capital Markets and Macroeconomic Conditions
U.S. Consumer Confidence

- US Consumer Confidence Index fell to 38.0 in December, a record low
  - The drop is attributed to economic uncertainty and recessionary indicators
    - High unemployment rates and falling personal asset values, including homes and investments, added to the economic malaise



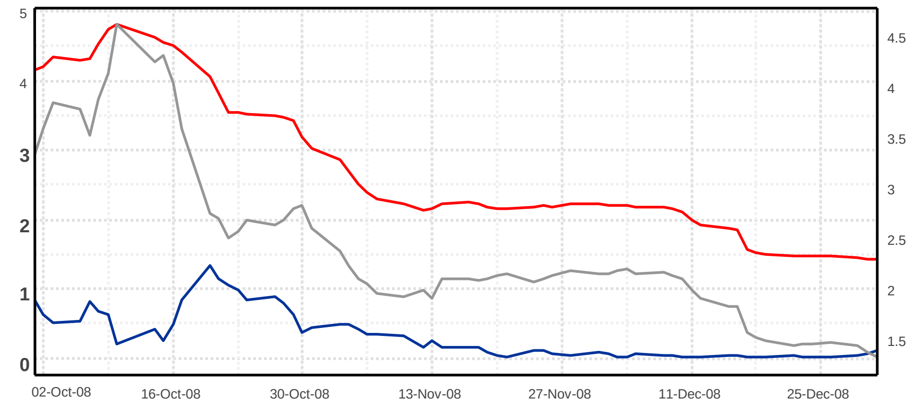
Source: Bloomberg & Confidence Board

U.S. Capital Markets and Macroeconomic Conditions
Treasury & Eurodollar ("TED") Spread

- The TED spread continued to widen in October due to massive solvency concerns, but declines during November and December
- Normal historical range has been between 0.1% to 0.5%

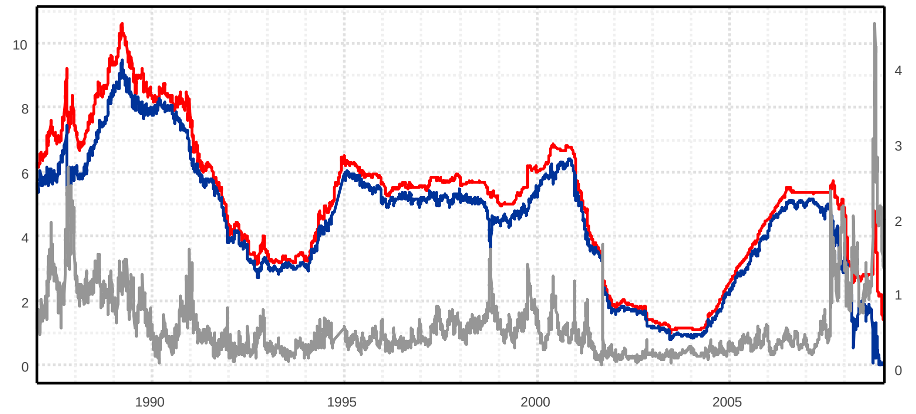
Ted Spread - 4th Quarter 2008

Key	Axis	Name	Last	Minimum		Maximum		Mean	SD	SD Change
red	Left	USD LIBOR 3M Rate	1.43	1.43	12/31/2008	4.82	10/10/2008	2.74	1.05	0.10
blue	Left	U.S. Treasury 3M Bill	0.11	0.01	12/10/2008	1.32	10/20/2008	0.32	0.34	0.13
grey	Right	TED Spread	1.31	1.31	12/31/2008	4.61	10/10/2008	2.42	0.82	



Ted Spread - Since Inception

Key	Axis	Name	Last	Minimum		Maximum		Mean	SD	SD Change
red	Left	USD LIBOR 3M Rate	1.43	1.00	06/25/2003	10.63	03/21/1989	5.06	2.16	0.0
blue	Left	U.S. Treasury 3M Bill	0.11	0.01	12/10/2008	9.45	03/27/1989	4.46	2.04	0.07
grey	Right	TED Spread	1.31	0.05	09/04/2001	4.61	10/10/2008	0.56	0.45	0.08



Source: Lehman Live

*TED spread is calculated by the difference between the 3-month LIBOR and 3-month T-bills

Securities Market

Market Highlights

Positive

- Treasuries, up 8.8% for 4Q08 and 13.7% YTD, outperformed all spread sectors as investors fled to safety
- Non-U.S. government bonds returned 8.8% for 4Q08, resulting in a 10.1% gain in 2008
- The trade-weighted USD rose 4% during the quarter and 8.2% in 2008

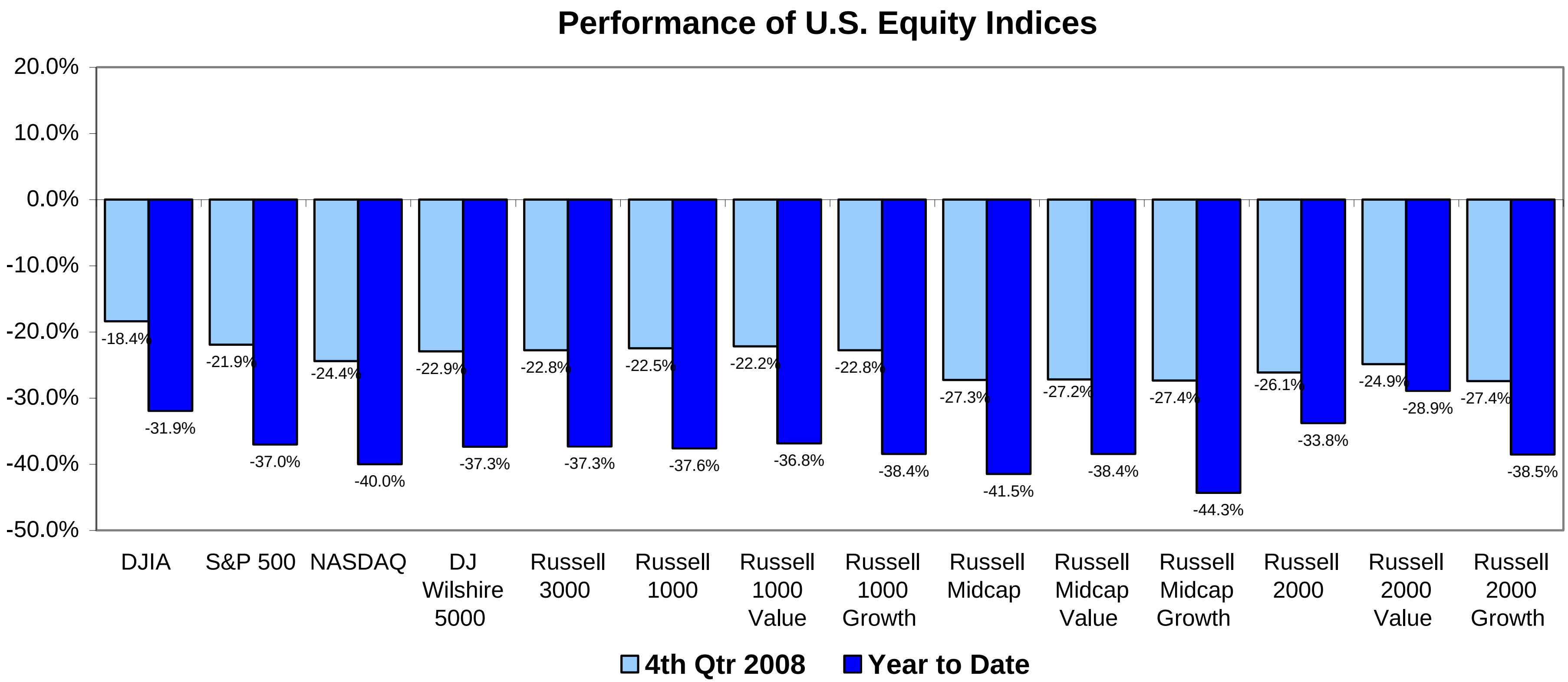
Negative

- Stock market plummeted; S&P fell 21.9% for 4Q08 and 37.0% YTD, its worst year since 1937
- International markets continued on a downward spiral; MSCI EAFE fell 19.9% for 4Q08 and 43.1% YTD
- Emerging markets were hammered; MSCI EM plummeted 27.6% for 4Q08 and 53.2% YTD
- Equity REITS declined 38.8% for 4Q08, resulting in a 37.7% loss for 2008

U.S. Equity

Growth and Value posted losses

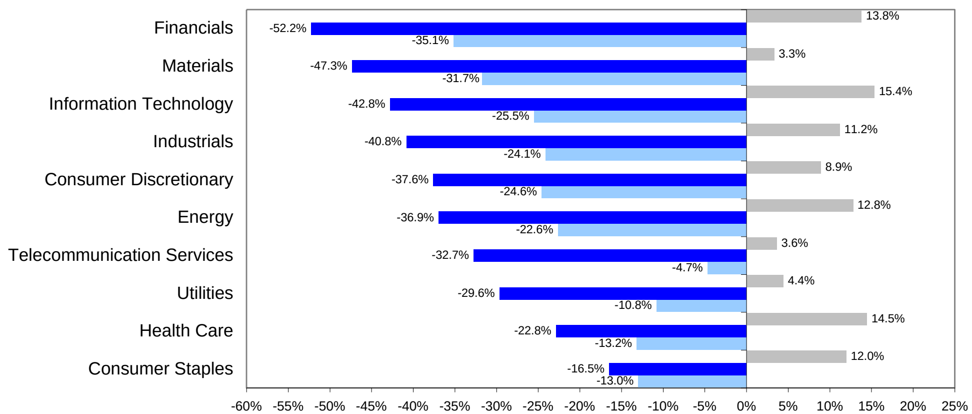
- Ending the year in the midst of a major recession with a substantial fall off in consumer spending and a rapidly increasing unemployment rate, U.S. stocks plummeted across all market caps (large, mid, small) and investment styles (value, core, growth)
- Continuing the trend from third quarter 2008, value-oriented stocks generally outperformed their growth counterparts in the fourth quarter
- Large-cap equities generally outperformed small-cap equities



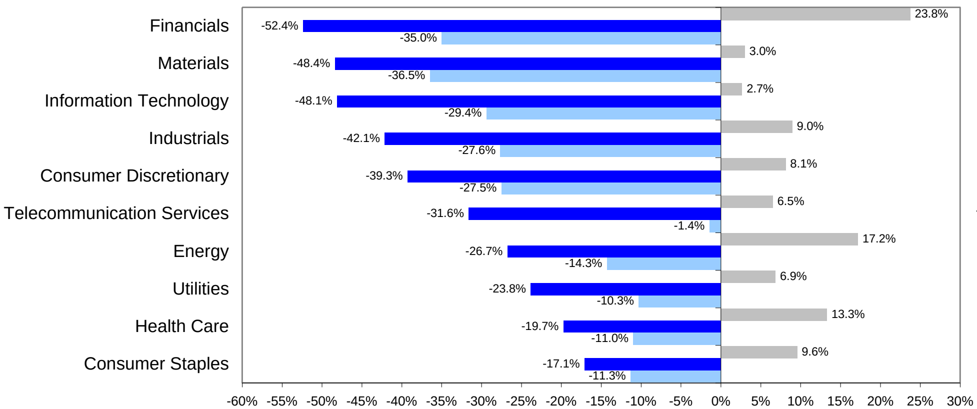
U.S. Equity
Large-Cap Stocks Continue Their Downward Spiral

- All of the ten sectors of every Russell 1000 index reported significant losses for the quarter
- Financials was the hardest-hit sector in the large cap space due to massive write-downs and the ongoing credit crisis

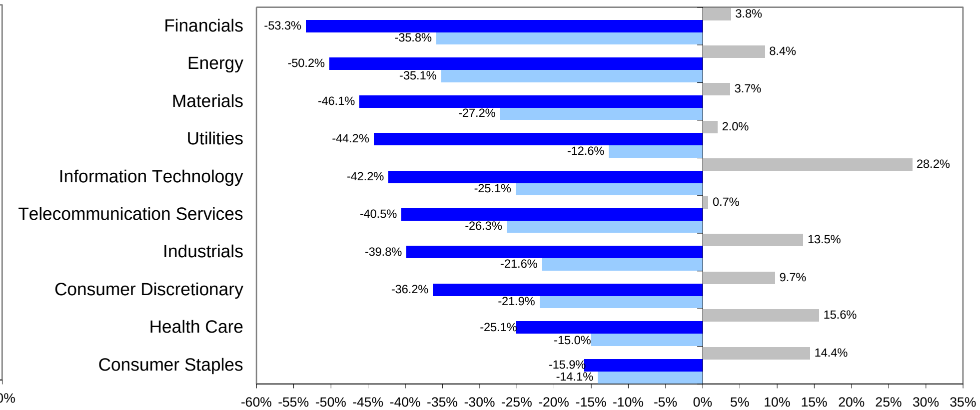
Large Cap Core Performance - Russell 1000 Index



Large Cap Value Performance - Russell 1000 Value Index



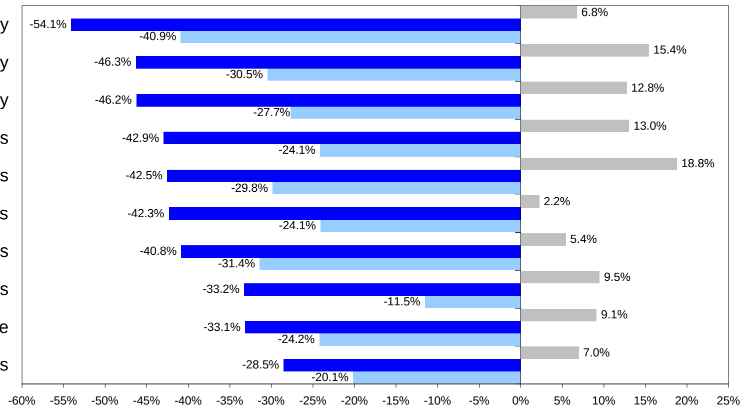
Large Cap Growth - Russell 1000 Growth Index

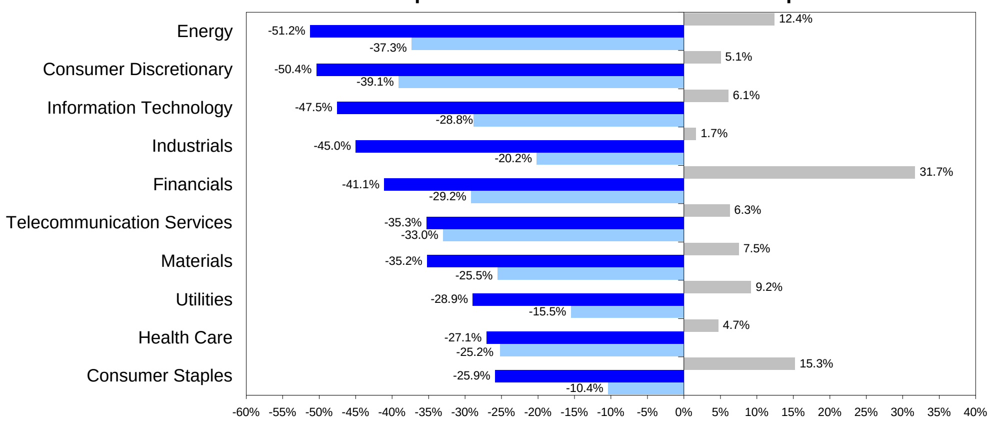


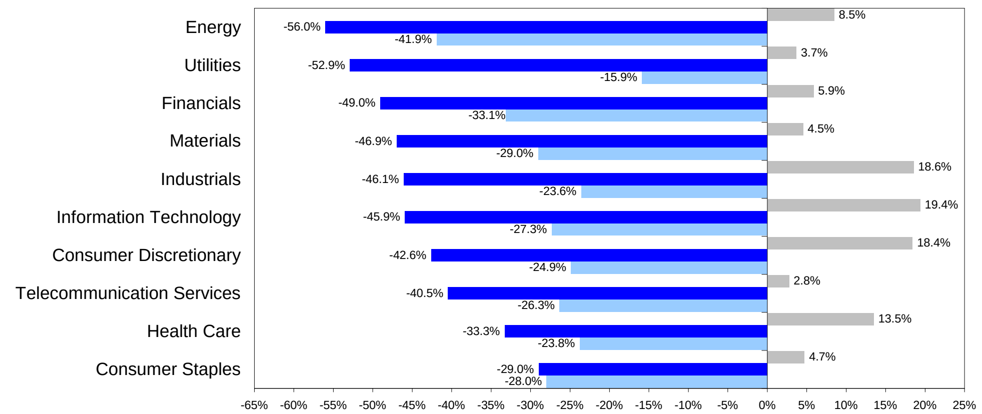
GICs Sector YTD Performance GICS Sector 4Q Performance GICs Sector 4Q Weighting

U.S. Equity
Punishment of Mid Cap Stocks in the Fourth Quarter

- Mid cap value slightly outperformed mid cap growth for the quarter and year-to-date



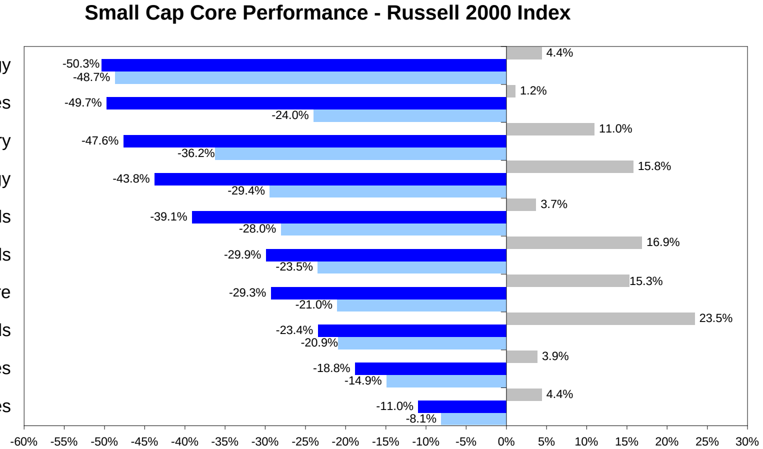


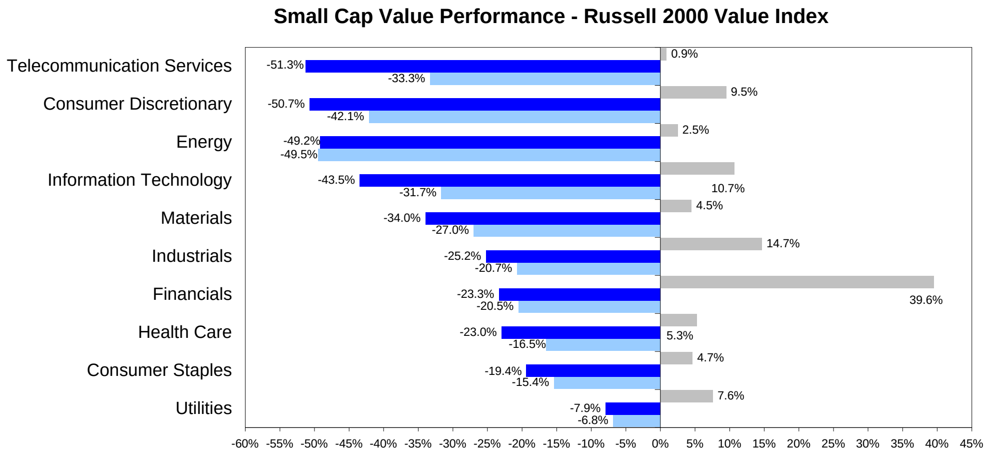


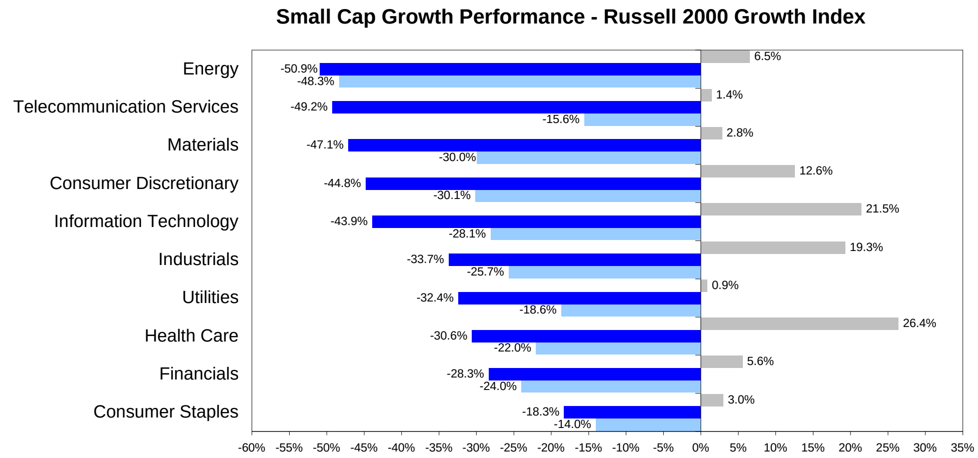
GICs Sector YTD Performance | GICS Sector 4Q Performance | GICs Sector 4Q Weighting

U.S. Equity
Small Cap Stocks Lose Less in 2008

- For the quarter, small cap value stocks outperformed small cap growth stocks, -24.9% compared to -27.4%, respectively







GICs Sector YTD Performance GICS Sector 4Q Performance GICs Sector 4Q Weighting

Fourth-Quarter and 2008 Performance: Nowhere to Hide

Worst Period Since the 1930s

- 4Q2008:
  – Large cap offered best results
  – Value outperformed growth across market capitalization
- 2008:
  – Losses were severe for mid cap
  – Small cap value was the strongest performer

4Q2008

	Growth	Core	Value
Large	**-22.8%**	**-22.5%**	**-22.2%**
Mid	**-27.4%**	**-27.3%**	**-27.2%**
Small	**-27.5%**	**-26.1%**	**-24.9%**

1 Year Returns

	Growth	Core	Value
Large	**-38.4%**	**-37.6%**	**-36.9%**
Mid	**-44.3%**	**-41.5%**	**-38.4%**
Small	**-38.5%**	**-33.8%**	**-28.9%**

Note: Russell 1000, Mid-Cap, 2000 Indices: Value, Core, Growth

Three-Year and Cumulative Significantly Negative
Steep Declines Across the Board

- 3-Year Returns: – Small cap value posted best results
  – Mid cap continued lagging
- Cumulative 3-Year: – Value outperformed growth

3 Year Returns

	Growth	Core	Value
Large	-9.1%	-8.7%	-8.3%
Mid	-11.8%	-10.7%	-10.0%
Small	-9.3%	-8.3%	-7.5%

Cumulative 3-Year

	Growth	Core	Value
Large	-24.9%	-23.8%	-22.9%
Mid	-31.4%	-28.7%	-27.1%
Small	-25.4%	-22.9%	-20.8%

Note: Russell 1000, Mid-Cap, 2000 Indices: Value, Core, Growth

Five-Year Results
Significantly Below Mid- and Long-Term Expectations

- 5-Year Returns: – Small cap and mid cap value posted slightly positive returns
- Cumulative 5-Year: – Considerable difference between value and growth
  – Large cap growth worst performance contributor

5 Year Returns

	Growth	Core	Value
Large	-3.4%	-2.0%	-0.8%
Mid	-2.3%	-0.7%	0.3%
Small	-2.4%	-0.9%	0.3%

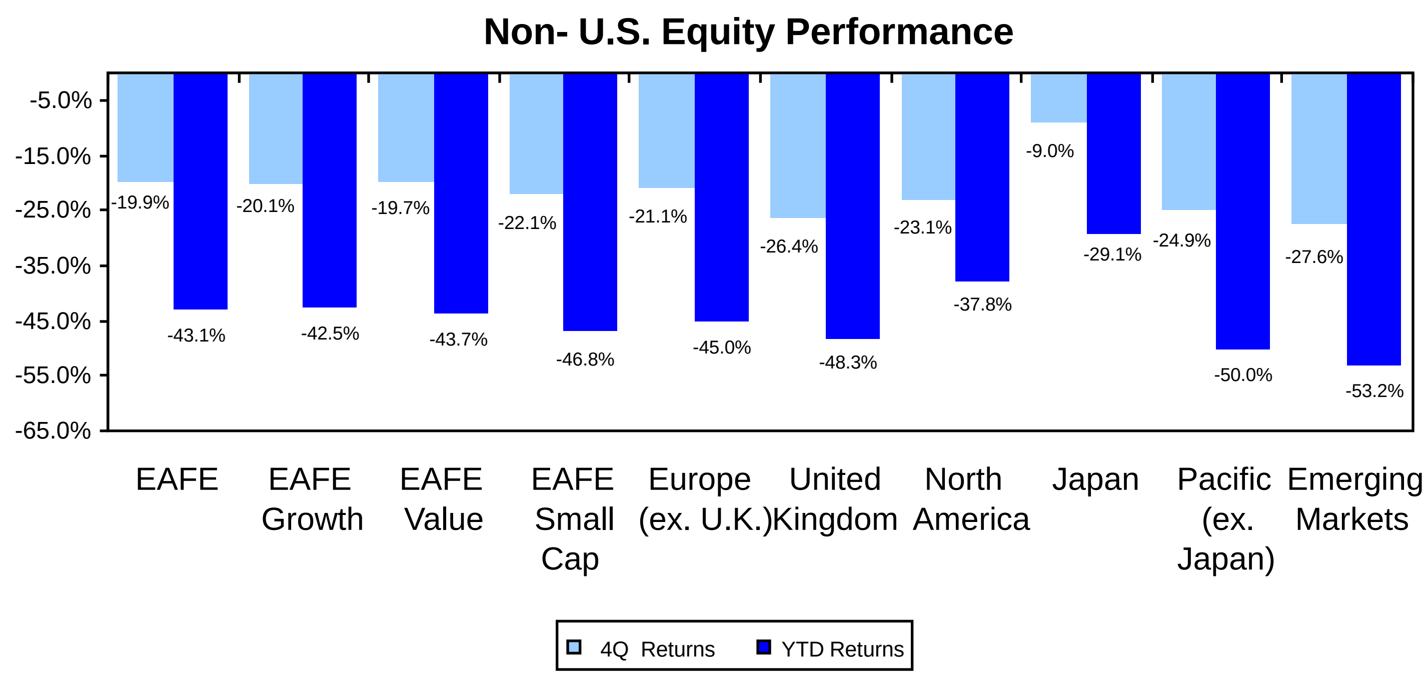
Cumulative 5-Year

	Growth	Core	Value
Large	-16.0%	-9.8%	-3.9%
Mid	-11.1%	-3.5%	1.7%
Small	-11.2%	-4.6%	1.4%

Note: Russell 1000, Mid-Cap, 2000 Indices: Value, Core, Growth

International Equities
Developed Markets: Non-U.S. Equities continued to Post Losses

- MSCI EAFE declined 19.9% (gross) in the fourth quarter and declined 43.1% for the year
  - In local currency terms, MSCI EAFE declined 18.5% for the quarter and declined 39.9% for the year
- Japan, which represents 24.2% of the index, posted a -9.0% return. In local currency terms, Japan posted a -22.3% loss.
- The UK, which represents 11.9% of the index, posted a -26.4% return

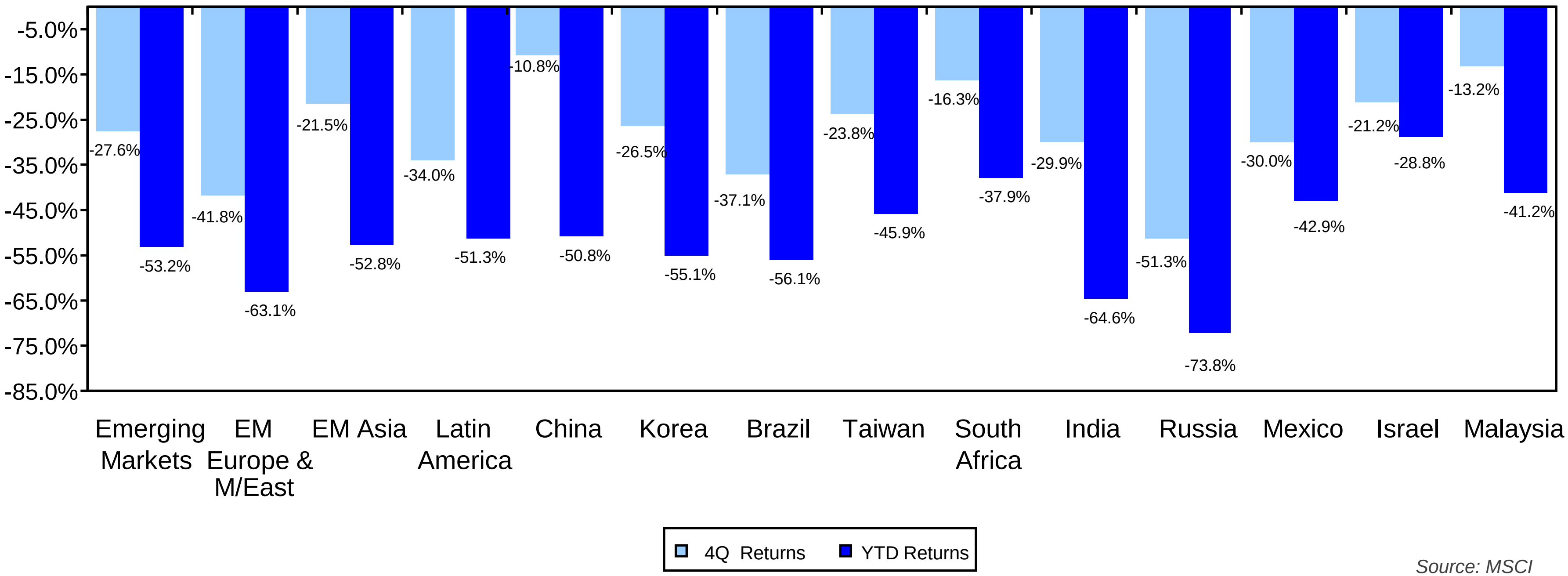


Source: MSCI

International Equities
Emerging Markets: Performance

- MSCI Emerging Markets Index declined 27.6% in the fourth quarter and declined 53.2% for the year
- Brazil, which represents 12.9% of the index, declined 37.1% for the quarter. China and Russia, which represent 18.2% and 5.7% of the index, posted quarterly losses of 10.8% and 51.3%, respectively
- All countries posted double-digit losses for the year

Emerging Markets Performance



Source: MSCI

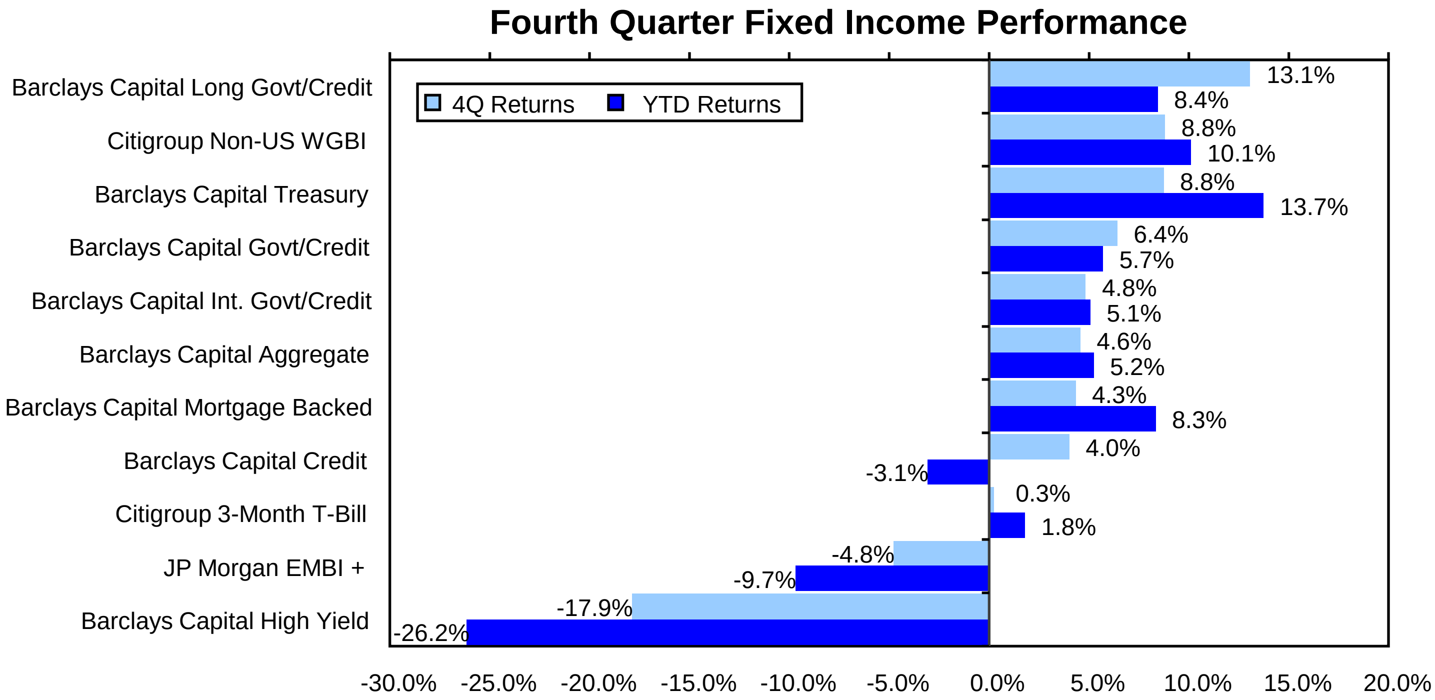
International Equity Markets Tumbled
One of Worst Years Ever

- Short-term performance:
  World indexed including emerging markets were hit harder then developed markets
- Long-term performance:
  International markets outperformed U.S. Equity
- Performance convergence across styles and markets

As of December 2008	4Q2008	YTD	3 Years	5 Years
MSCI AC Wld ex US	-22.3%	-45.2%	-6.6%	3.0%
MSCI AC Wld ex US Growth	-22.4%	-45.4%	-6.3%	2.4%
MSCI AC Wld ex US Value	-22.2%	-45.1%	-6.9%	3.5%
MSCI EAFE	-19.9%	-43.1%	-6.9%	2.1%
MSCI EAFE Growth	-20.1%	-42.5%	-6.2%	1.8%
MSCI EAFE Value	-19.7%	-43.7%	-7.7%	2.3%
MSCI EAFE SC	-22.1%	-46.8%	-13.5%	1.5%

Fixed Income
U.S. Fixed Income: Performance

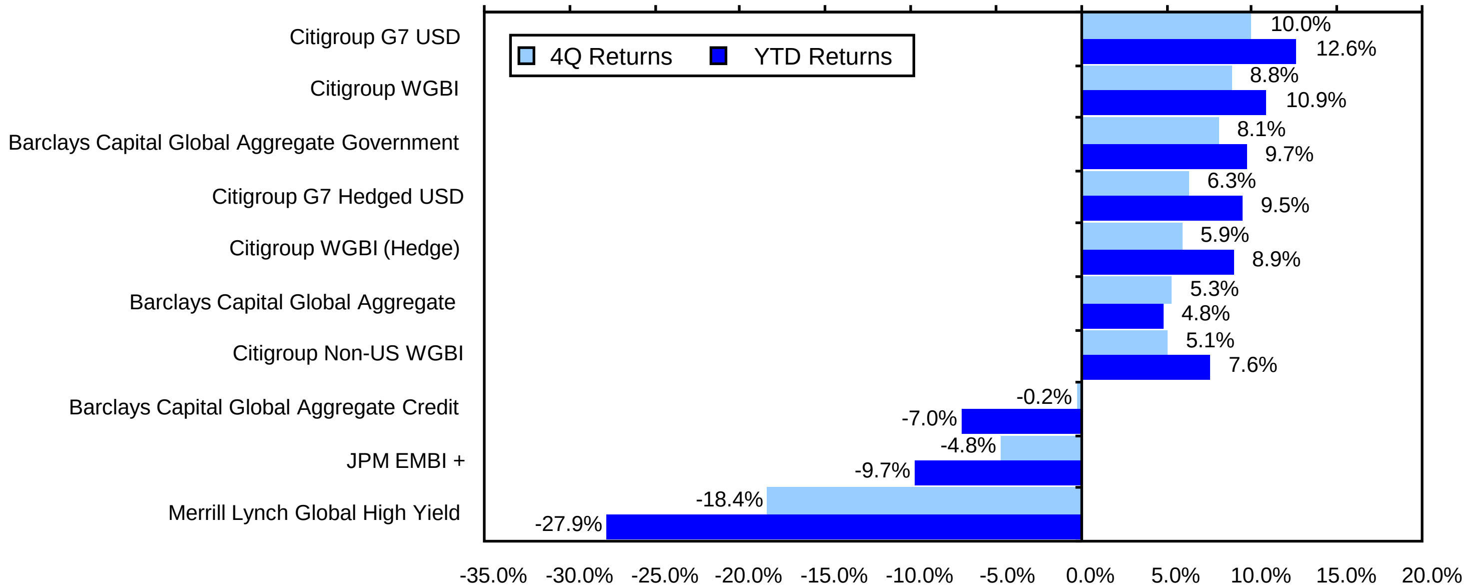
- Volatility soared as the market responded to various Federal Reserve, Treasury and FDIC policies
  - The FOMC enacts three cuts of the Federal Funds Target Rate Range to 0.0% - 0.25%
- Barclays Capital Aggregate Index returned 4.6% for the fourth quarter and 5.2% for the year
  - CMBS and ABS bond spreads swell because of expectation in rising vacancies in commercial properties and credit card delinquencies
  - Flight to quality continued as Treasuries and Agencies lead all sectors
  - Financials outperformed the index, with a 8.1% quarterly return driven mainly by government intervention



Fixed Income
International Fixed Income: Performance

- Japan, Great Britain and the Euro zone declare that they are in a recession
- International Government bonds had a strong quarter while the US dollar and Yen rose
  - Citigroup Non-US World Government Bond Index posted gains of 5.1% in local currency terms and 8.8% in dollar terms
  - All countries posted positive returns except the UK where the weakening economy caused bond prices to decline -10.8%
- JP Morgan Emerging Market Bond Index Plus drop -4.8% for the quarter

Fourth Quarter Intl Fixed Income Performance



Note: Local Currency Terms

Alternative Investments
Private Equity: Fundraising Troubles Continue into 2009

- US private equity fundraising slowed dramatically in 4Q08 with 99 funds raising approximately $43 billion, down from the 208 funds raising nearly $100 billion in 4Q07. US-based private equity firms raised $266 billion by 363 funds in 2008, 18% below the $326 billion raised by 506 funds in 2007
- European private equity fundraising increased 10% in 2008 but number of funds dropped by 59: 156 funds raised $106 billion compared to 215 funds raising $96 billion in 2007

U.S. Private Equity Fundraising, 2008 v. 2007

	2008		2007		
	No. of Funds	**Amounts (MM)**	**No. of Funds**	**Amounts (MM)**	**% Change**
Buyout/Corp. Finance	143	$180,962	222	$244,606	-26
Mezzanine	17	40,202	18	8,914	+351
Venture Capital	150	24,729	182	33,085	-25
Funds of Funds	34	12,943	70	28,699	-55
Secondary & Other	19	6,732	14	10,444	-36
TOTAL	**363**	**$265,568**	**506**	**$325,748**	**-18**

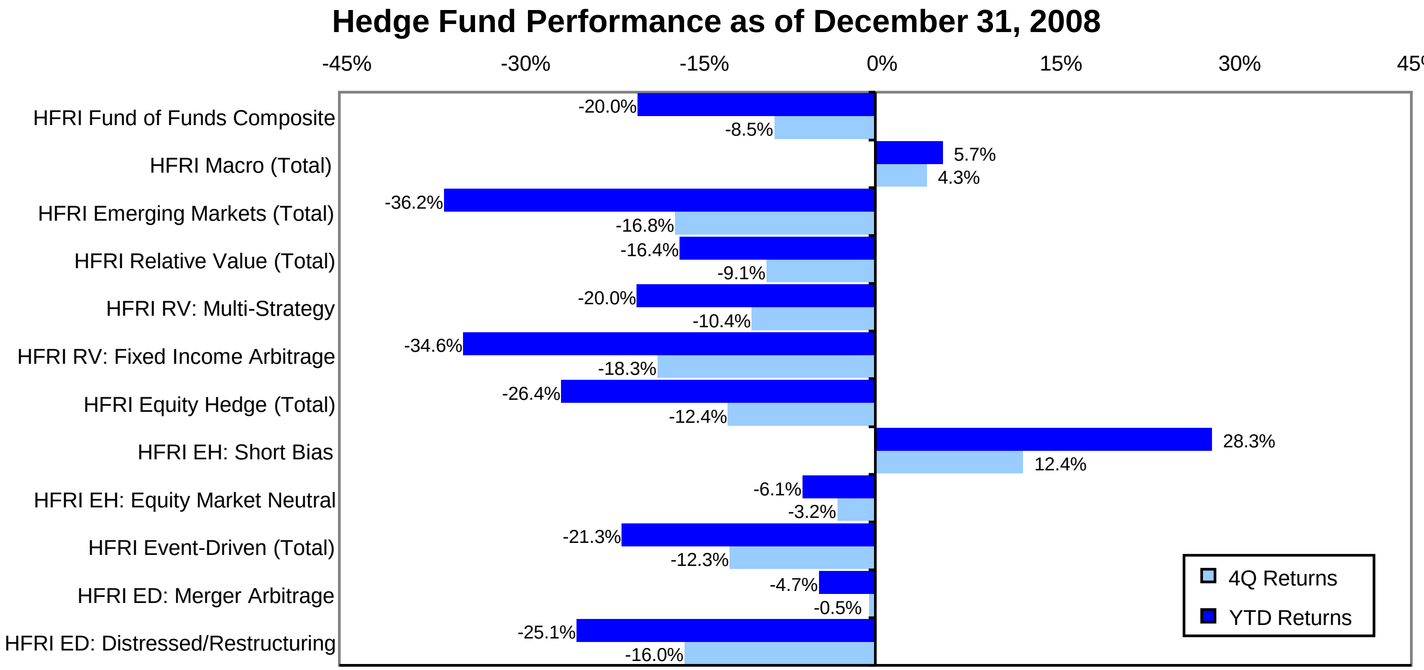
European Private Equity Fundraising, 2008 v. 2007

	2008		2007		
	No. of Funds	**Amounts (MM)**	**No. of Funds**	**Amounts (MM)**	**% Change**
Buyout/Corp. Finance	78	$91,147	89	$64,920	+40
Mezzanine	9	2,366	11	6,184	-62
Venture Capital	48	6,359	66	5,656	+12
Funds of Funds	17	4,365	40	13,629	-68
Secondary & Other	4	1,449	9	5,804	-75
TOTAL	**156**	**$105,686**	**215**	**$96,193**	**+10**

Source: Dow Jones Private Equity Analyst, Dow Jones LP Source

Alternative Investments
Hedge Funds: Redemptions, Liquidations and Deleveraging

- Hedge fund assets under management ("AUM") fell a record of $350 billion, or 20%, in 2008
  - The worst 3-month period, from September through November, accounted for 90% of the drop
  - This brought total AUM down to $1.5 trillion by year-end
- Of all the hedge fund category strategies (macro, emerging markets, relative value, equity hedge, and event driven) only HFRI Macro produced positive returns for 4Q08 and 2008
- HFRI Short Bias was the best performer for 2008, returning 28.3%. HFRI Emerging Markets (returning -36.2%) and HFRI Fixed Income Arbitrage (returning -34.6%) were among the worst performers



Source: WSJ, Eurekahedge, Hedge Fund Research

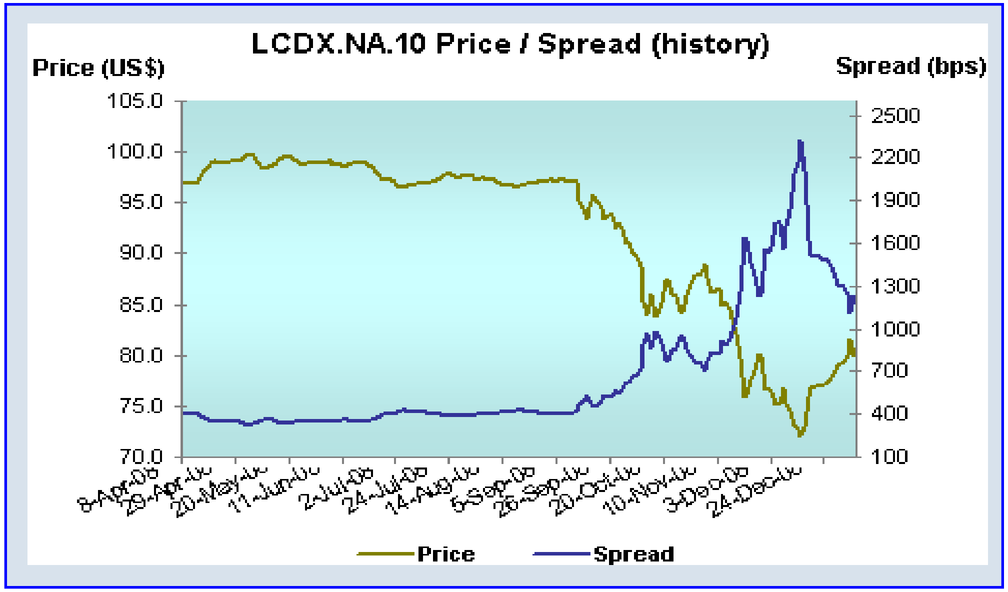
Alternative Investments

U.S. High Yield: Selectively Increasing Appetite for Riskier Assets

- In the past month ending 12/31/2008, High-Yield funds took in $910.9 million in new investment, the highest weekly inflow in four years
- The total return on the Merrill Lynch High Yield Master II Index during the fourth quarter was -17.6%, compared with -1.2% during the prior year
  - For the full year, the return was -26.4%, sharply below the 2.2% gain realized in 2007
  - High yield issuance declined sharply during the fourth quarter of 2008, falling to just $1.44 billion from $34.5 billion in 2007

Alternative Investments
Leveraged Loans: Issuance Halts

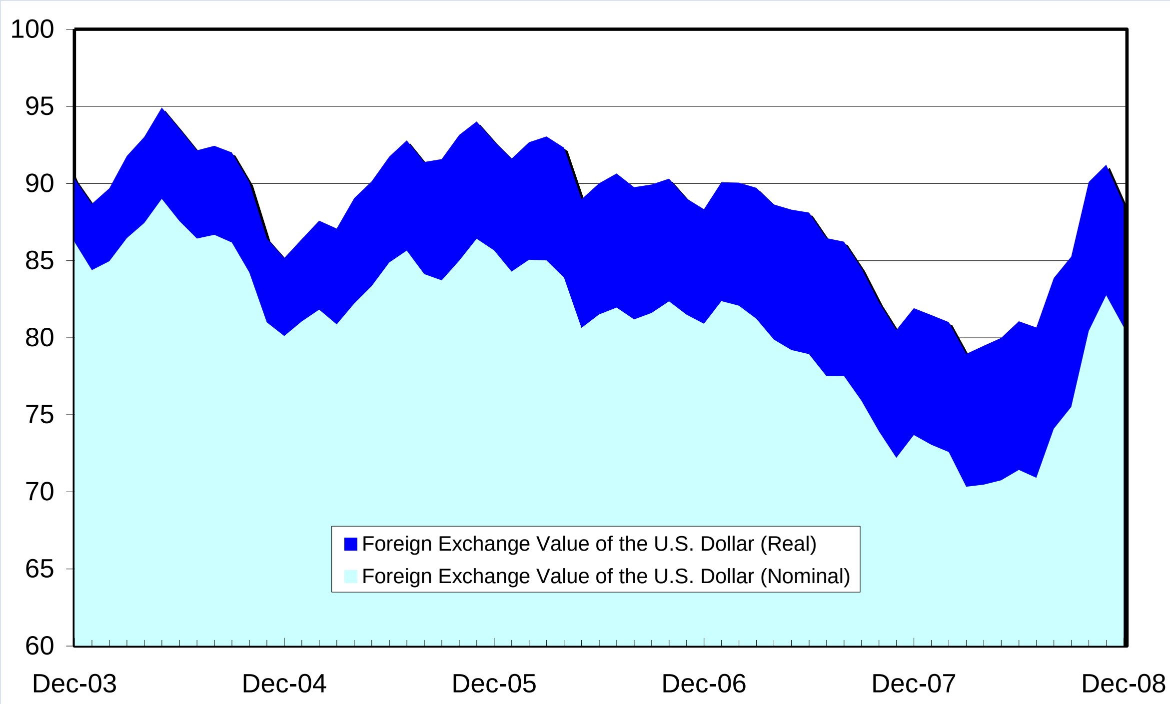
- From a performance standpoint, it was the worst quarter and year in the history of this asset class
  - As measured by the CSFB Leveraged Loan Index, the total return for leveraged loans during 2008 was -28.8%, down from a 1.8% in 2007
- According to Thomson Reuters Loan Pricing Corporation (LPC), leveraged loan issuance declined 57% in 2008 to $294.5 billion from $688.5 billion during 2007
  - Fourth quarter issuance was down sharply, declining approximately 71% to just $38.0 billion from $131.9 billion in the comparable fourth quarter of 2007
  - Loans for LBOs were practically nonexistent in the fourth quarter of 2008, with just $1.2 billion of total issuance, down 97% from $48.1 billion in the fourth quarter of 2007
- On Dec. 19, the LCDX Index hit 77.46, increasing more than five points from five days earlier, when the index hit its lowest point ever at 72.68
  - Since then, the LCDX has hit a plateau, which has led market observers to speculate that the current spread offered by leveraged loans is an acceptable risk and reward affirmation
  - Many of the assets tracked by this index are hard to value; and bank exposures are far from clear



Alternative Investments
Currency: First Annual Gain for Dollar Since 2005

- Though the dollar declined against major currencies during December, it advanced during the fourth quarter
  - The dollar finished 2008 with its first annual gain since 2005, gaining 8.2% against major currencies in real terms
- The dollar faces mounting pressures from economic and political uncertainties in the U.S. and abroad

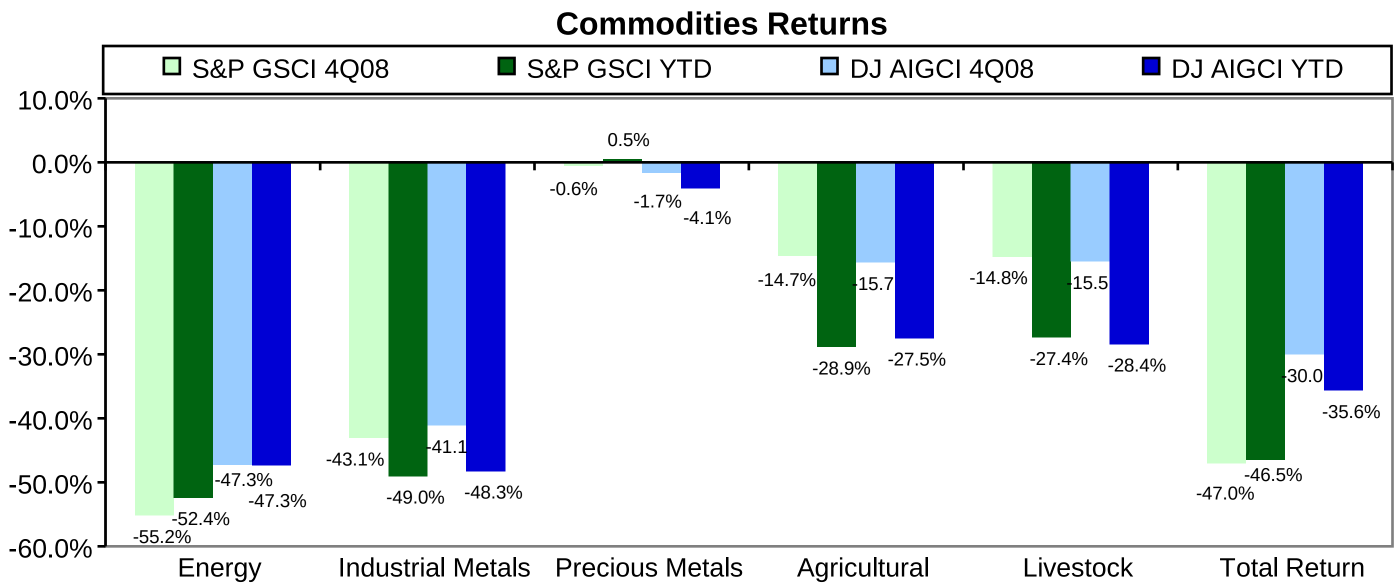
Trade Weighted Value of the USD vs Major Currencies



Major Currencies: EURO, GBP, YEN

Alternative Investments
Commodities: Bull to Bear

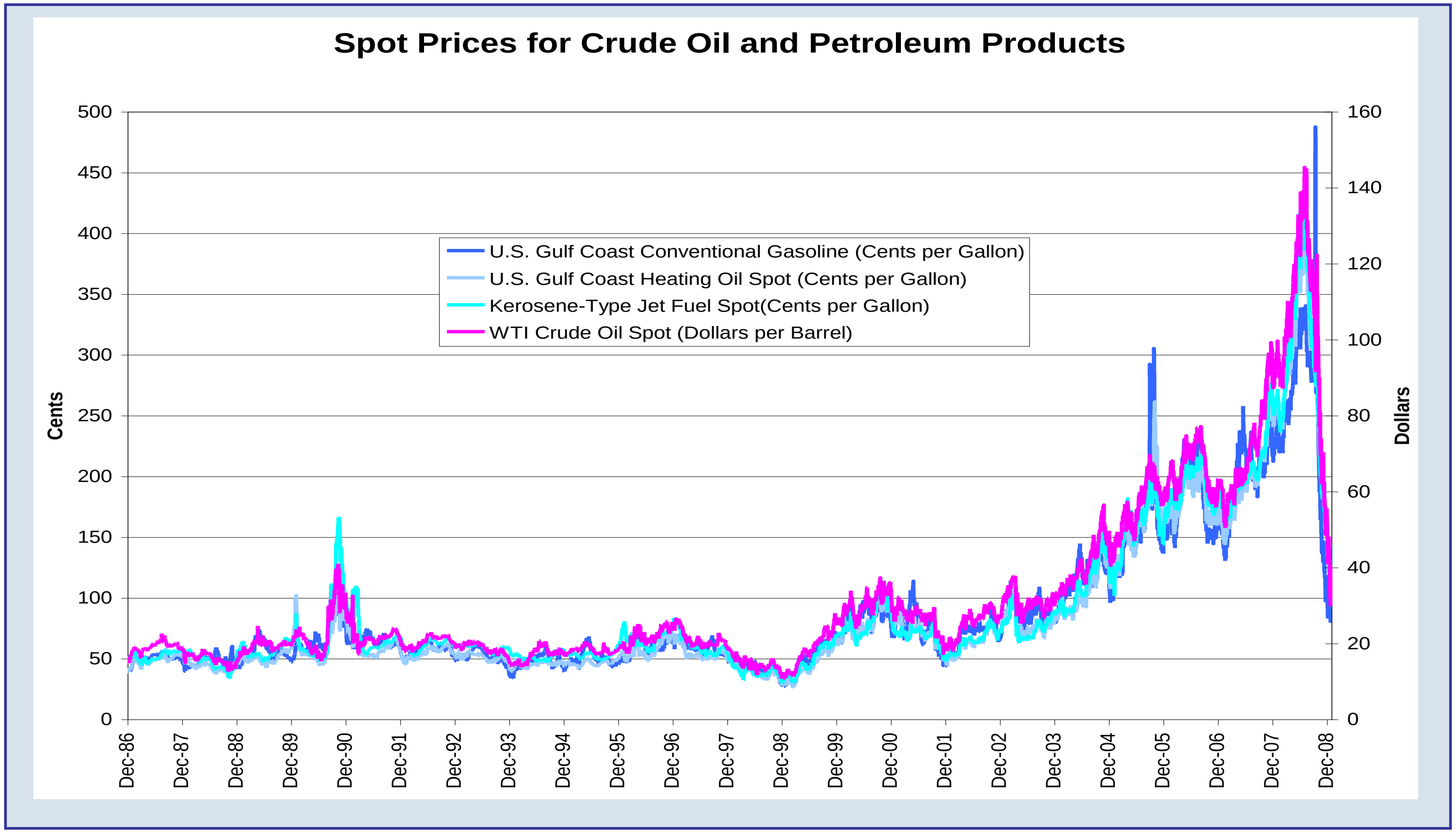
- During the fourth quarter of 2008, the S&P GSCI declined 47.0% while the DJ AIGCI declined 30.0%. For the year, the S&P GSCI posted a loss of 46.5% and the DJ AIGCI posted a loss of 35.6%
- Energy was the weakest-performing sector of the S&P GSCI for both the quarter and year, as oil markets continued to struggle with slowing demand and growing supplies
- For the DJ AIGCI, energy was the weakest-performing sector for the quarter, while industrial metals was the worst for the year amid declining manufacturing data
- Precious metals showcased resiliency as a “store of value”



Sector Breakdown as of 12/31/2008						
S&P GSCI	69.5%	6.4%	3.2%	15.6%	5.4%	100.0%
DJ AIGCI	30.6%	15.6%	12.3%	30.9%	10.6%	100.0%

Alternative Investments
Commodities: Oil Continues to Fall

- Crude oil and petroleum products have continued their declines from record highs as economic concerns deepen and demand slows
- Oil has continued its downward spiral, falling from its July peak of over $145 to end the year at below $40

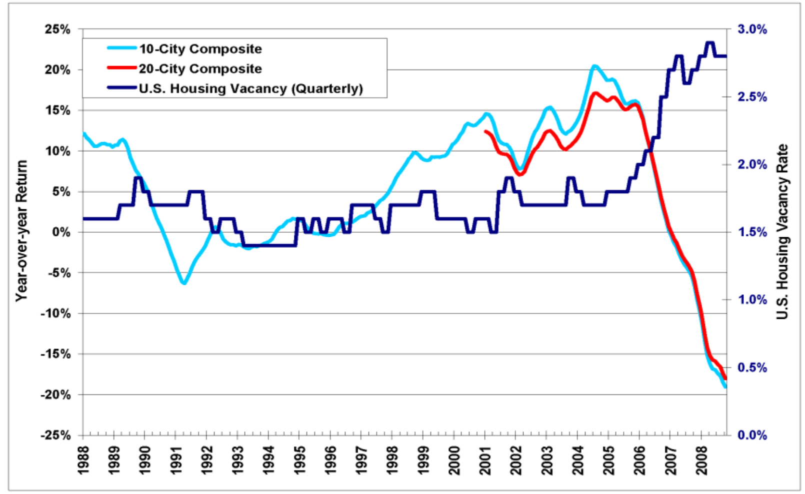


Source: Energy Information Administration

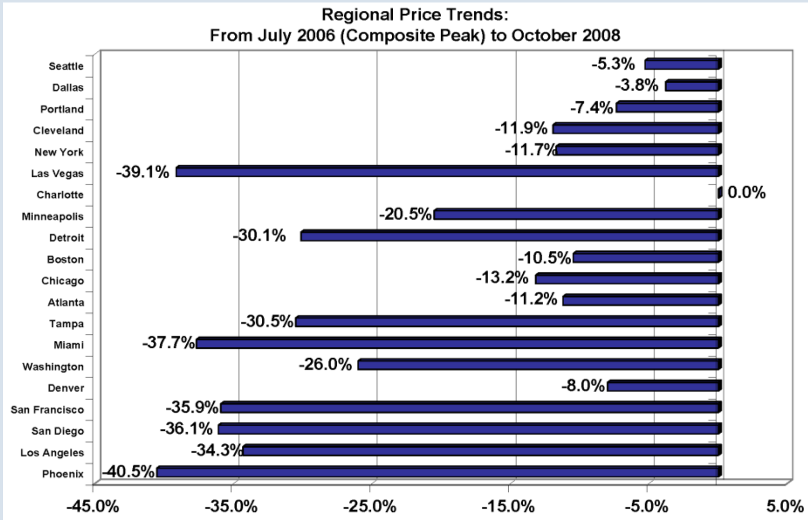
Alternative Investments
Real Estate: S&P Case-Shiller Home Price Index

- **Residential Real Estate**: The S&P Case-Shiller Home Price Index for October continued to exhibit record declines in the nation's housing markets. The 20-City Composite and 10-City Composite fell 18.0% and 19.1% year-over-year, respectively. Both indices have recorded year-over-year declines for 22 consecutive months
  - Existing home sales fell in November according to the National Association of Realtors. The national median home price also dropped in November, falling to $181,300 from $186,500 in the previous month
  - The Department of Commerce's Census Bureau announced that national vacancy rates in the third quarter 2008 were 9.9% for rental housing and 2.8% for homeowner housing. These rates were not statistically different from the rate last year
- **July 2006 (20-City Composite) to October 2008:** Most metro areas continued to show substantial declines from the July 2006 peak. The 20-City Composite is down 23.4% and the 10-City Composite is down 24.9%. Nine of the 20 metro areas reported declines of more than 25%
  - Phoenix, Miami, and Las Vegas lost the most, each declining over 37% while Charlotte held up best at 0.0% during this time period

Home Prices & Housing Supply



Source: S&P Case Shiller; U.S. Census Bureau



Source: U.S. Department of Labor Statistics

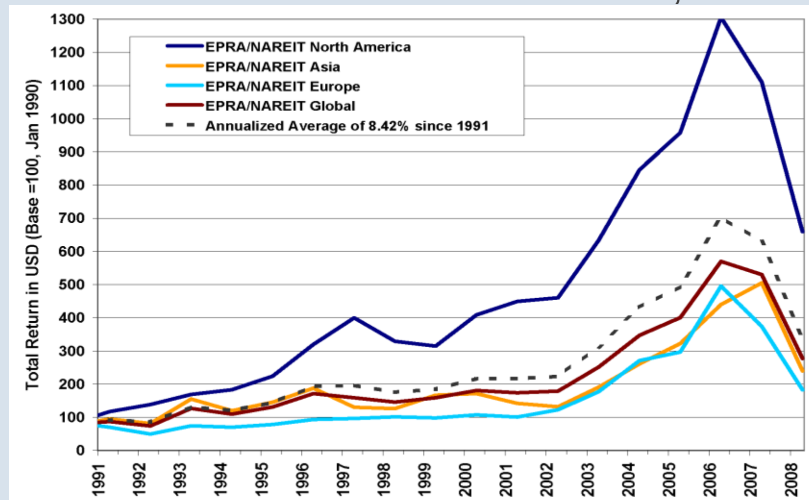
Alternative Investments
Real Estate: NAREIT & NCREIF Indices Showcasing Market Trends

- **Global Real Estate**: Globally, the returns in the public REIT markets have been dismal. The real estate markets in Asia fell the most, declining 52.5% on a year-over-year basis, followed by Europe and North America which declined 51.1% and 40.6% year-over-year, respectively
  - Historically, public real estate has provided an average annualized return of approximately 8.4% since 1991
- **Public Real Estate:** The NAREIT Index returned -36.5% for the fourth quarter of 2008 compared to 4.5% for the third quarter
  - For the year-to-date period, the index was down 37.3%
- **Private Real Estate:** NCREIF Property Index was down 0.2% for the third quarter of 2008 compared to 0.6% for the second quarter

<u>Sector contribution</u>:

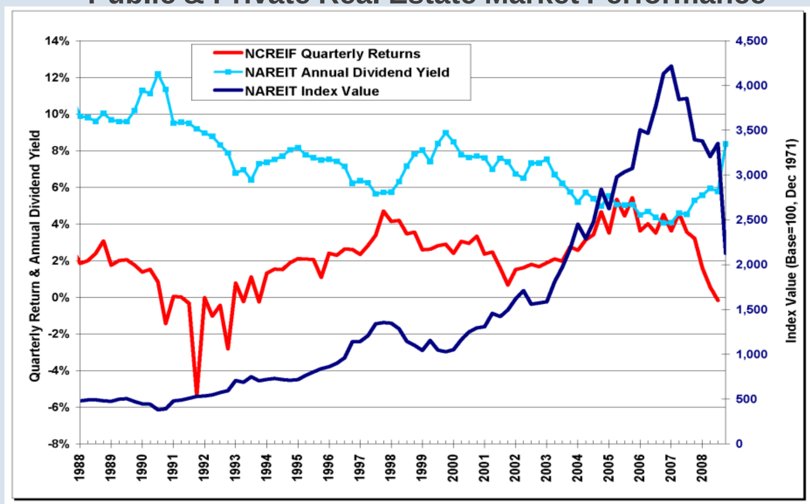
▪ Apartment	-0.4%
▪ Industrial	0.0%
▪ Office	-0.3%
▪ Hotel	0.0%
▪ Retail	0.2%

EPRA NAREIT Indices as of December 31, 2008



Source: EPRA

Public & Private Real Estate Market Performance

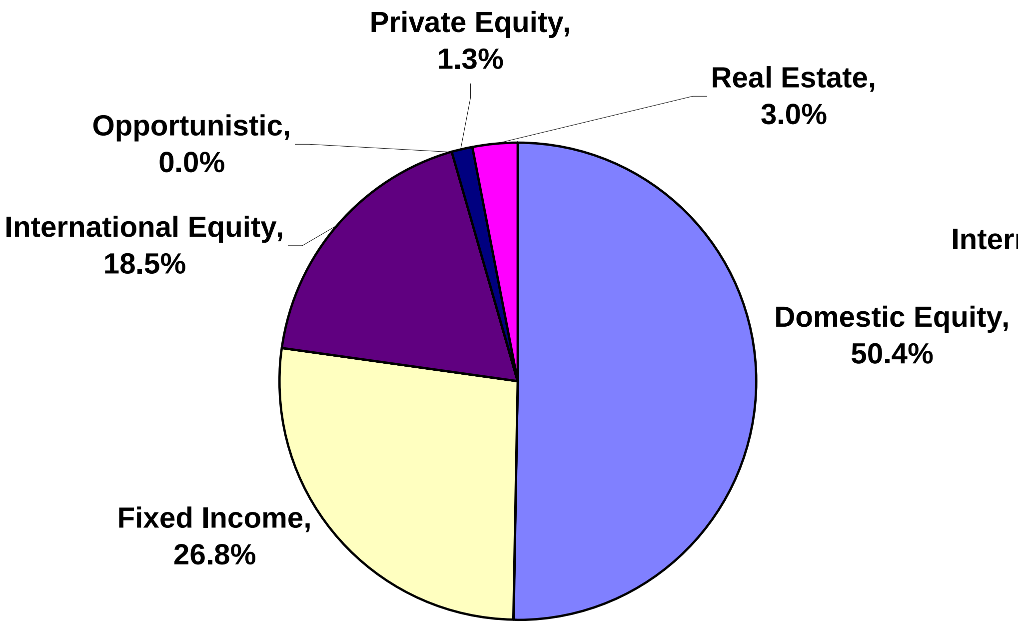


Source: NAREIT; NCREIF

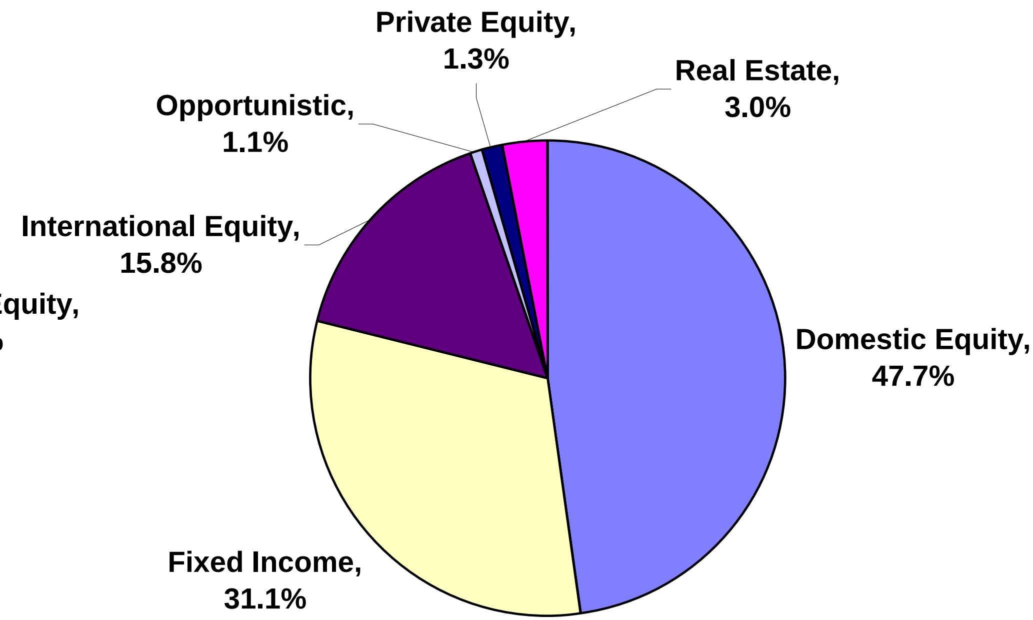
ASRS Total Fund Performance

Total Fund Asset Allocation
December 31, 2008

Policy Adjusted for Transition into Real Estate and Private Equity



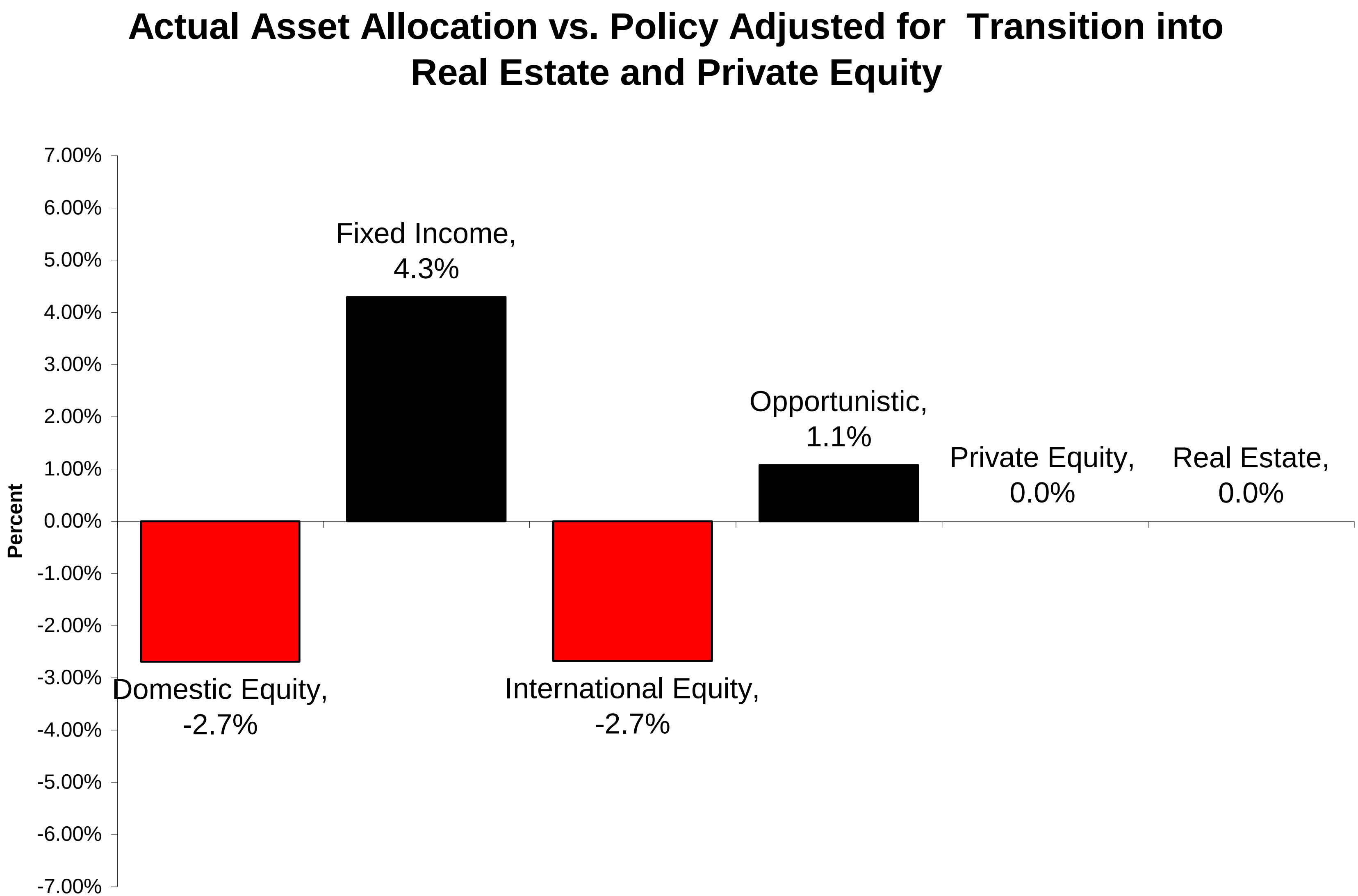
Actual Asset Allocation*



*Notional values were used for the GTAA strategies.

Note: Real Estate and Private Equity market values are reported on a quarter-lag. Within the Policy Adjusted for Transition chart, Real Estate was prorated to domestic equity, international equity, and fixed income while Private Equity was prorated to domestic equity

Total Fund Asset Allocation
December 31, 2008



Total Fund Performance
For Periods Ending December 31, 2008

	Quarter	1 Year	3 Years	5 Years	10 Years	Inception
1) **ASRS Total Fund (Net)**	-14.1%	-26.8%	-3.8%	1.1%	2.3%	9.5%
Benchmark*	-15.0%	-27.4%	-3.6%	1.0%	1.4%	9.3%
Excess Return	0.9%	0.6%	-0.2%	0.1%	0.9%	0.2%

* Interim Benchmark (current): 37% S&P 500, 7% S&P 400, 7% S&P 600, 27% Barclays Capital Aggregate, 19% MSCI ACWI ex US, and 3% NPI+100 bps
Note: Interim Benchmark incorporates a proration of 3% real estate and 5% private equity

Policy History:
- 7/1/75-12/31/79 – 40% S&P 500/60% Barclays Capital Aggregate
- 1/1/80-12/31/83 – 50% S&P 500/50% Barclays Capital Aggregate
- 1/1/84-12/31/91 – 60% S&P 500/40% Barclays Capital Aggregate
- 1/1/92-12/31/94 – 50% S&P 500/40% Barclays Capital Aggregate/10% EAFE
- 1/1/95-6/30/97 – 45% S&P 500/40% Barclays Capital Aggregate/15% EAFE
- 7/1/97-12/31/99 – 50% S&P 500/35% Barclays Capital Aggregate/15% EAFE
- 1/1/00-9/30/03 – 53% S&P 500/30% Barclays Capital Aggregate/17% EAFE
- 10/1/03-12/31/06 – 53% S&P 500/26% Barclays Capital Aggregate/15% MSCI EAFE/ACWI ex US(1)/6% NPI+100 bps
- 1/1/07-present – 31% S&P 500/7% S&P 400/7% S&P 600/26% Barclays Capital Aggregate/18% MSCI ACWI ex US/6% NPI+100 bps/5% Russell 3000+300 bps

(1) MSCI EAFE/ACWI ex US Benchmark is the MSCI EAFE prior to 10/1/05 and the MSCI ACWI ex US thereafter

Total Fund Performance
For Periods Ending December 31, 2008

		1 Year	3 Years	5 Years	10 Years	Inception
	ASRS Total Fund (Net)	-26.8%	-3.8%	1.1%	2.3%	9.5%
2)	Actuarial Assumption	8.0%	8.0%	8.0%	8.0%	7.6%
	Excess Return	-34.8%	-11.8%	-6.9%	-5.7%	1.9%
3)	Asset Allocation Target	8.3%	8.0%	7.7%	8.1%	N/A
	Excess Return	-35.1%	-11.8%	-6.6%	-5.8%	N/A
4)	CPI Inflation + 3.75%	3.7%	5.9%	6.4%	6.3%	7.5%
	Excess Return	-30.5%	-9.7%	-5.3%	-4.0%	2.0%
5)	Wage Inflation + 3.75%	8.6%	8.0%	8.5%	7.9%	8.3%
	Excess Return	-35.4%	-11.8%	-7.4%	-5.6%	1.2%

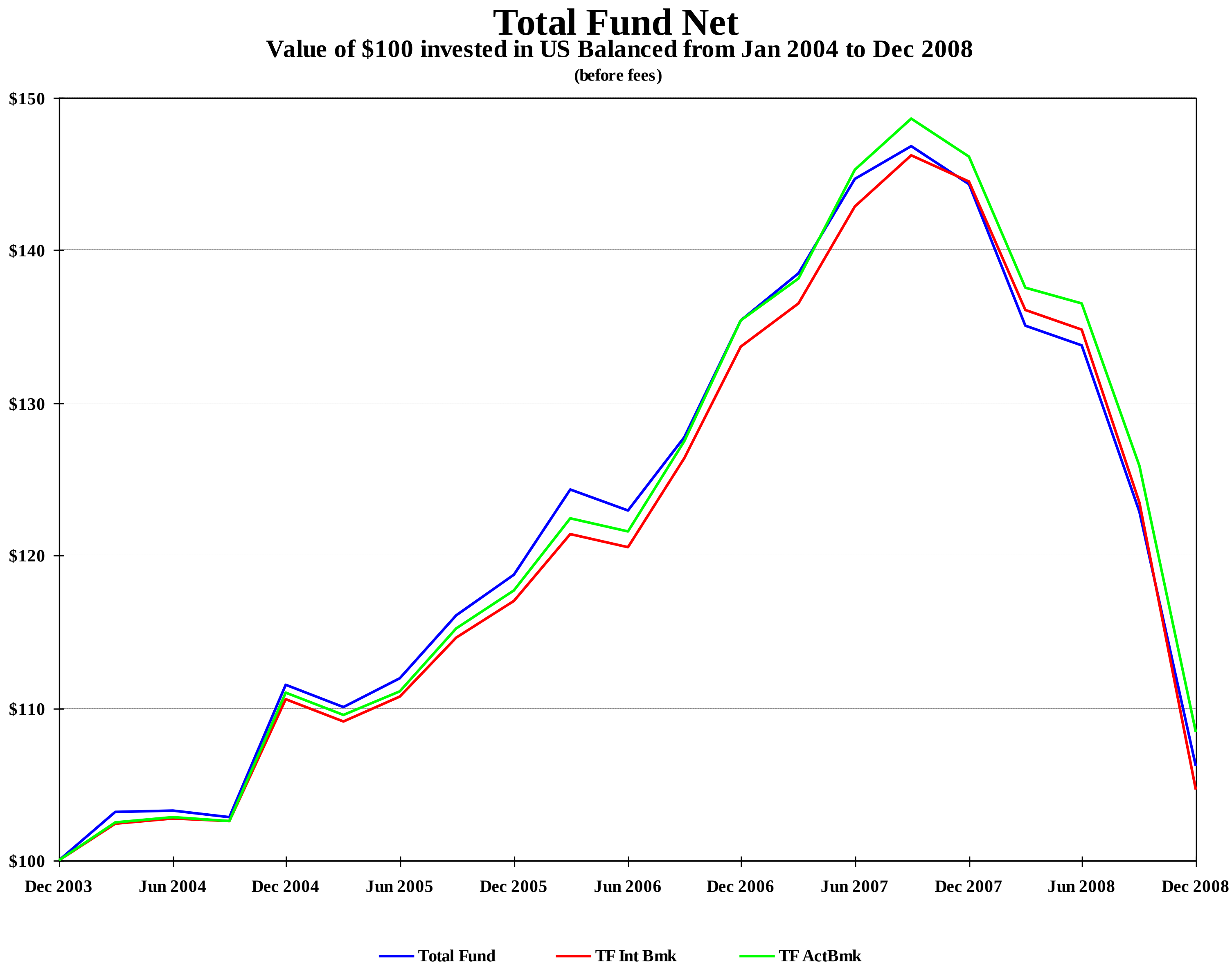
Supplemental Comparison Information*
For Periods Ending December 31, 2008

	1 Year	3 Years	5 Years	10 Years	15 Years
Russell/Mellon Trust Universes					
Master Trust Funds - Total Funds	60	64	68	78	53
Total Funds - Public	47	69	68	89	52
Total Funds Billion Dollar - Public	45	72	77	89	56
Total Funds - Corporate	61	62	71	78	54
Wilshire Trust Universe Comparison Service					
Master Trusts - All	68	68	65	70	49
Public Funds	68	74	74	74	38
Public Funds Greater than $1.0 Billion	63	83	85	78	41
Corporate	58	63	61	66	62
Callan Associates Inc.					
Total Funds	61	68	72	81	56
Public Funds	65	79	74	86	45
Public Funds - Large (>1B)	61	83	85	88	53
Corporate Funds	58	61	72	79	62

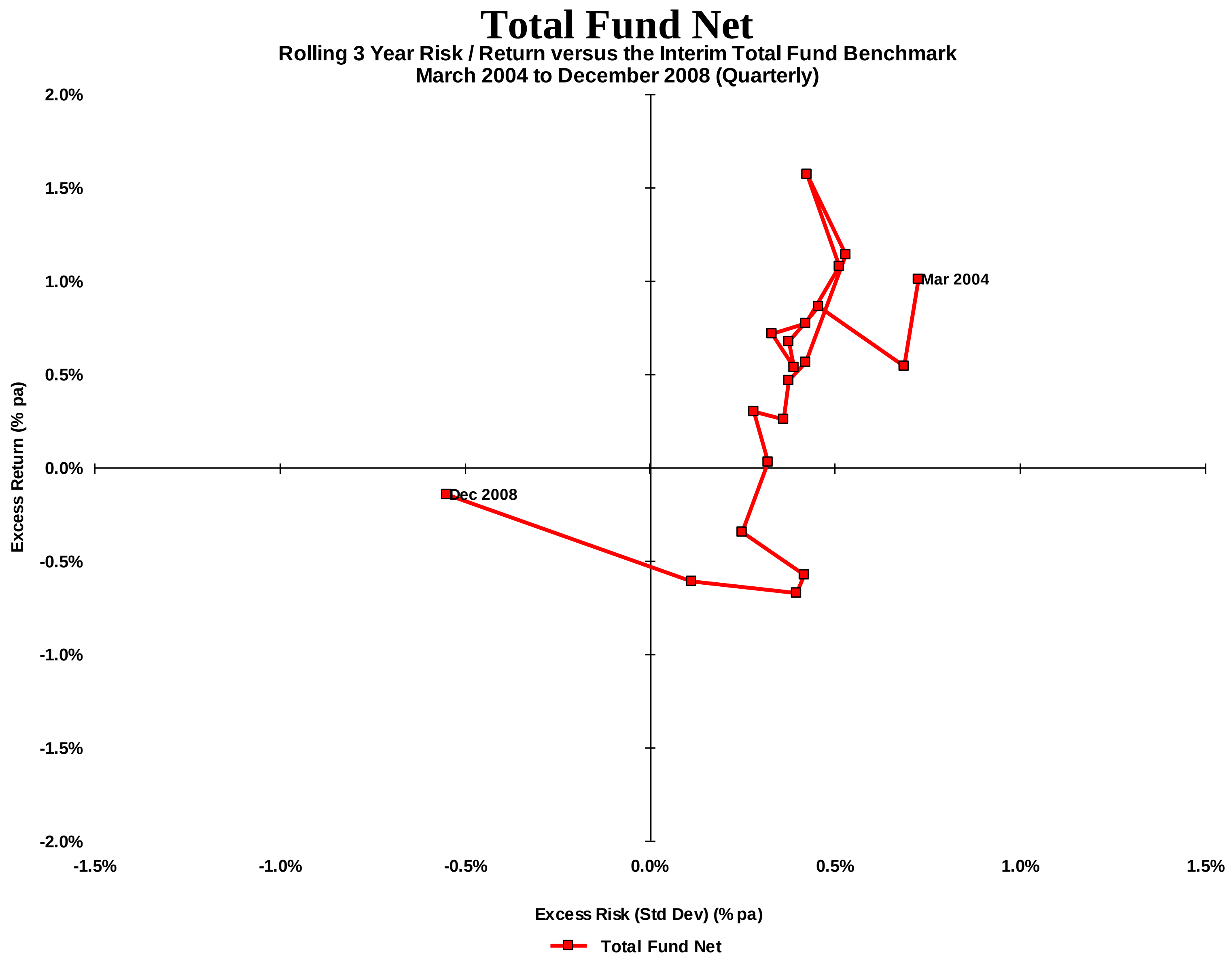
*The information contain herein is for comparison purposes only and is not a Total Fund performance benchmark. Peer universe comparisons are subject to several limitations, including: peer groups are not comprehensive, several funds are included in multiple peer groups, peer groups are constructed using gross of fees returns, and survivorship bias in that poorly performing funds may no longer continue to report results.

Note: Universes are constructed with gross of fees returns; therefore, the ASRS rank is based on gross of fees returns.

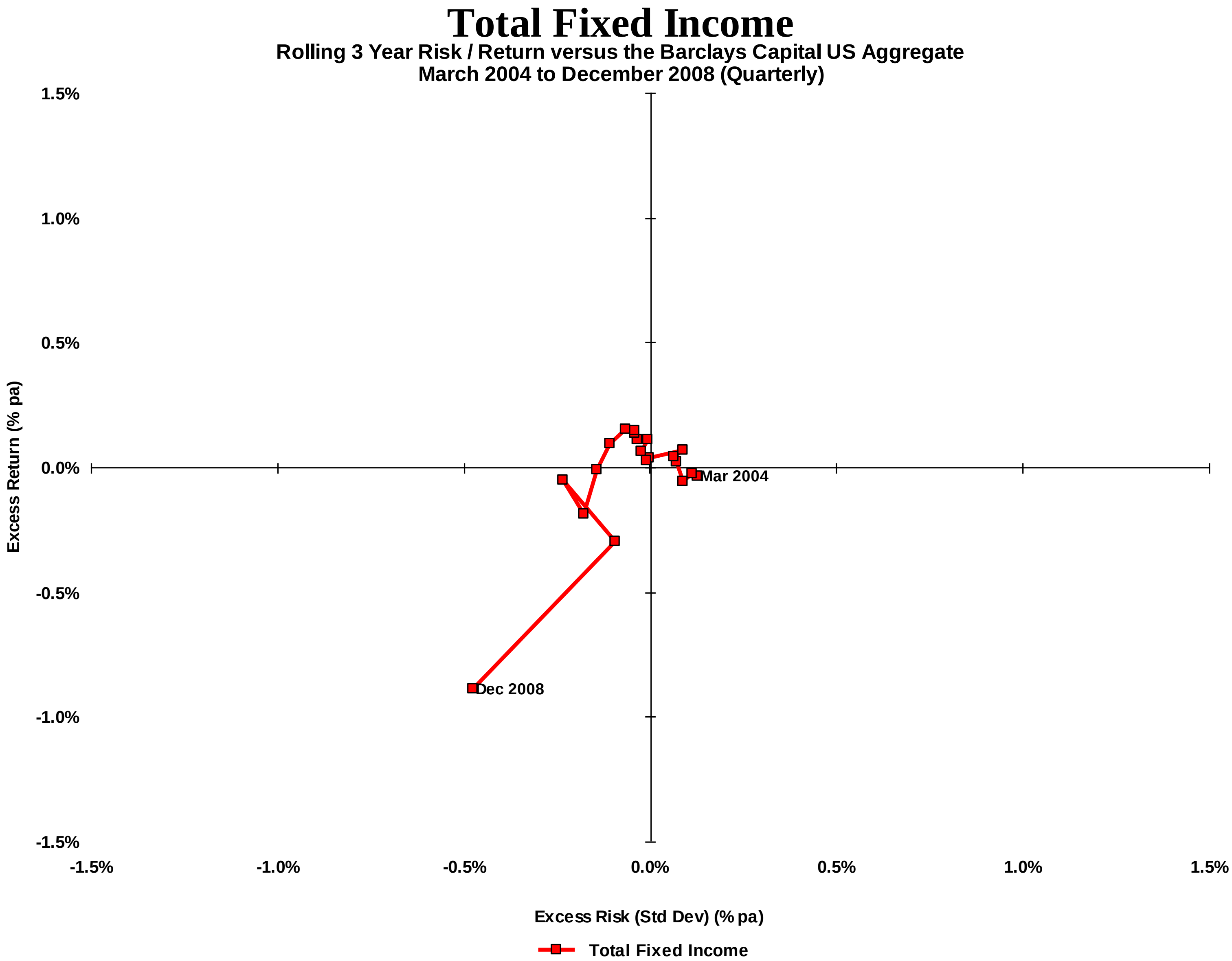
Total Fund Growth



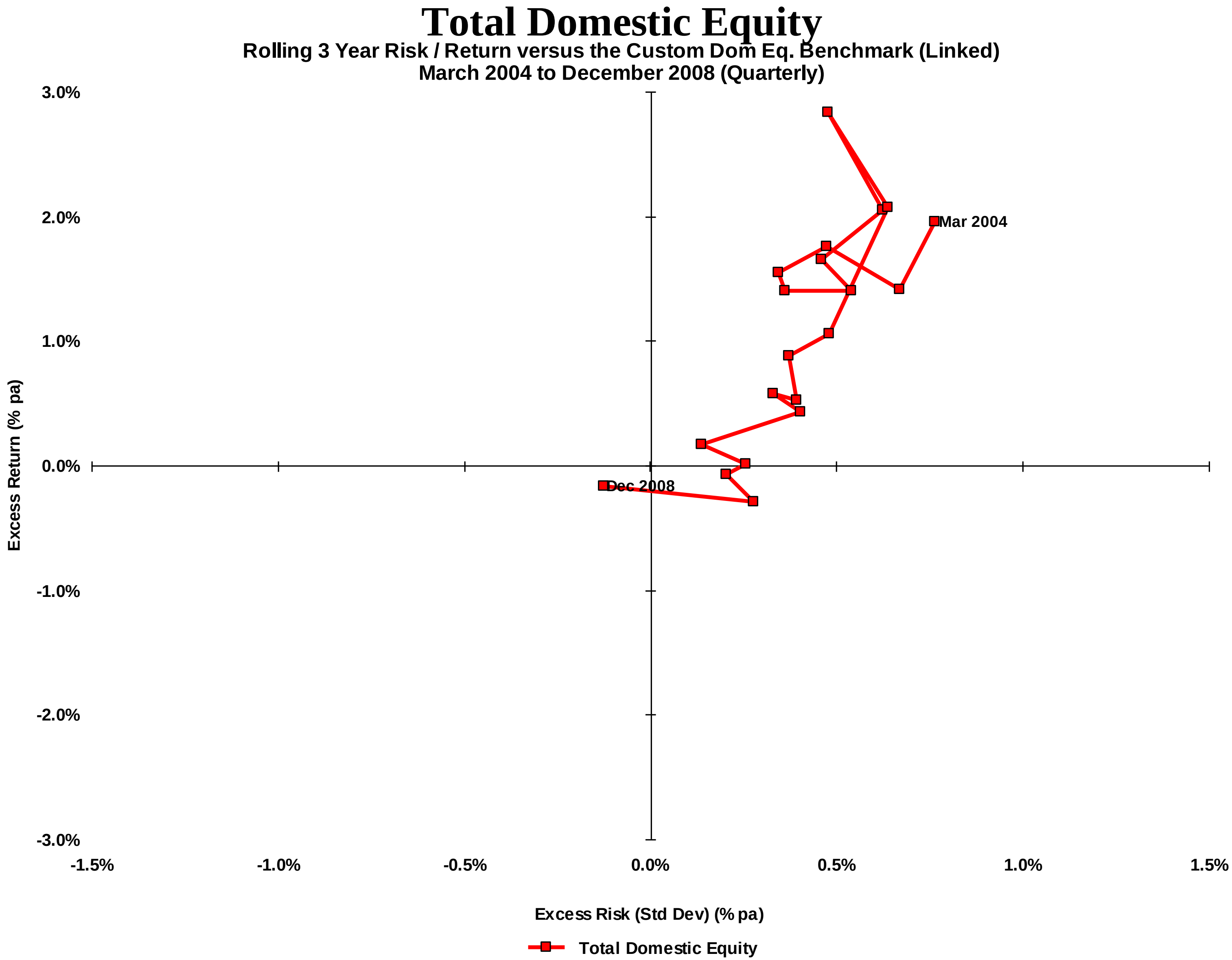
Risk/Return Analysis



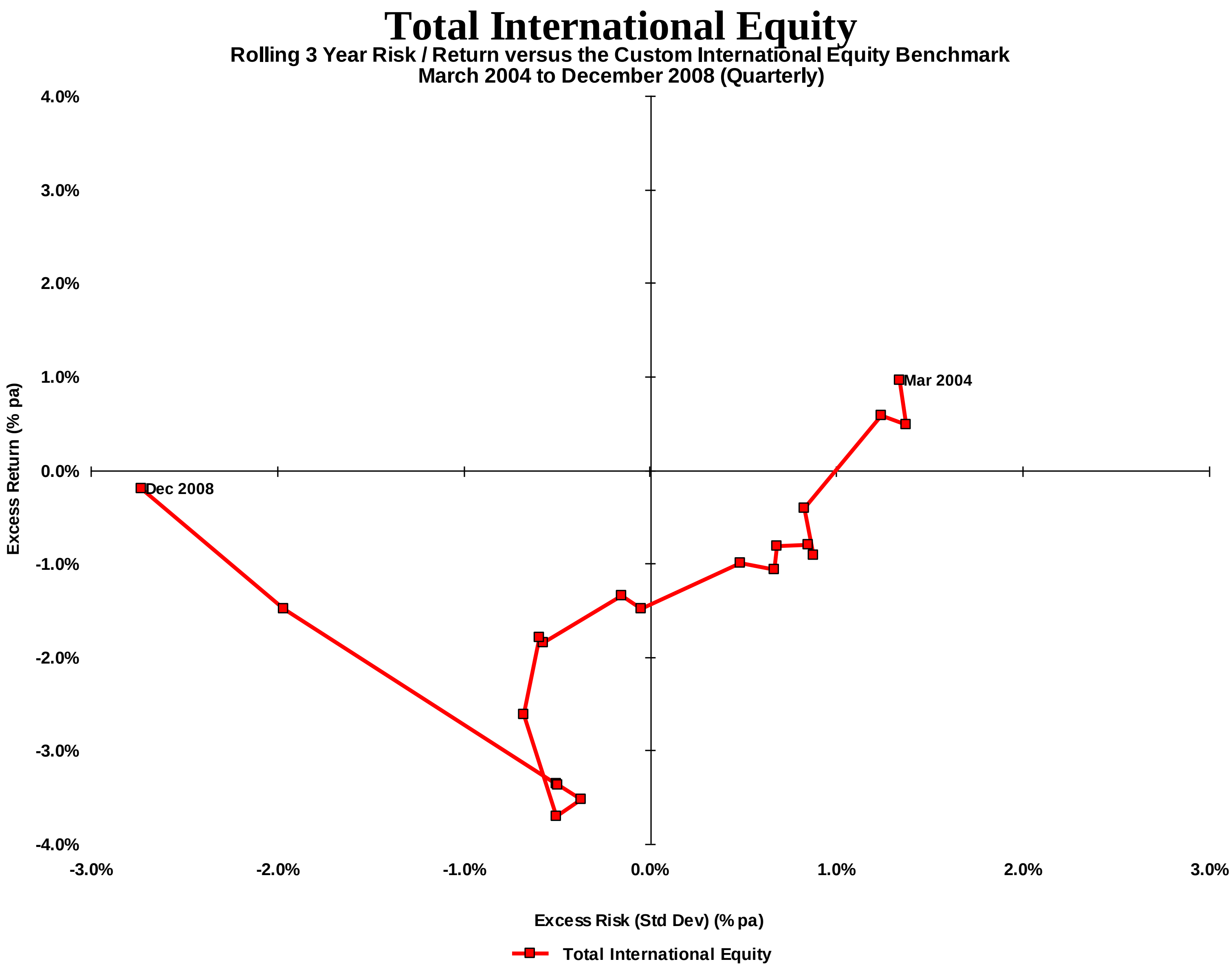
Risk/Return Analysis



Risk/Return Analysis



Risk/Return Analysis



Performance vs. Benchmarks
For the 3 Years Ending December 31, 2008

	Return	Assumed ROR	Std. Dev.
Total Fund	-3.8%	8.0%	12.1%
Benchmark[1]	-3.6%		12.5%
Domestic Fixed	4.5%	4.8%	3.3%
Barclays Capital Aggregate	5.5%		3.8%
Domestic Equity	-8.2%	8.6%	16.7%
S&P Custom Bmk[2]	-8.0%		16.8%
Intl. Equity	-6.8%	8.8%	19.7%
MSCI Custom Bmk[3]	-6.6%		22.5%
Real Estate	3.5%	7.1%	12.5%

(1) Interim Benchmark (current): 37% S&P 500, 7% S&P 400, 7% S&P 600, 27% Barclays Capital Aggregate, 19% MSCI ACWI ex US, and 3% NPI+100 bps
Note: Interim Benchmark incorporates a proration of 3% real estate and 5% private equity
(2) S&P 500 prior to 1/1/07 and 74% S&P 500, 13% S&P 400, 13% S&P 600 thereafter
(3) MSCI EAFE/ACWI ex US Benchmark is the MSCI EAFE prior to 10/1/05 and the MSCI ACWI ex US thereafter

Performance vs. Benchmarks
For the 5 Years Ending December 31, 2008

	Return	Assumed ROR	Std. Dev.
Total Fund	1.1%	7.7%	10.4%
Benchmark[1]	1.0%		10.5%
Domestic Fixed	4.1%	4.7%	3.5%
Barclays Capital Aggregate	4.7%		3.8%
Domestic Equity	-1.5%	8.5%	14.1%
S&P Custom Bmk[2]	-2.0%		14.0%
Intl. Equity	1.6%	8.7%	17.3%
MSCI Custom Bmk[3]	2.4%		19.3%
Real Estate	N/A	7.3%	N/A

(1) Interim Benchmark (current): 37% S&P 500, 7% S&P 400, 7% S&P 600, 27% Barclays Capital Aggregate, 19% MSCI ACWI ex US, and 3% NPI+100 bps
Note: Interim Benchmark incorporates a proration of 3% real estate and 5% private equity
(2) S&P 500 prior to 1/1/07 and 74% S&P 500, 13% S&P 400, 13% S&P 600 thereafter
(3) MSCI EAFE/ACWI ex US Benchmark is the MSCI EAFE prior to 10/1/05 and the MSCI ACWI ex US thereafter

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